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# **DEVELOPMENT OF INTERPERSONAL RELATIONSHIPS IN GLOBAL VIRTUAL TEAMS**

Master's Thesis  
in International Business  
Liiketaloustiede, kansainvälisen liiketoiminnan pro gradu -tutkielma

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# 1 INTRODUCTION

This thesis investigates the development of relationships in same global virtual team working on different projects. The purpose is to explore how do interpersonal relationships develop in terms of characteristics of virtuality and if there is any influence of project lifespan on the development of these relationships. Development of relationships, in case of this study, explains the dynamic nature of relationships. In current research setting, term development is used to explain the phenomena where relationships keep on emerging, either in one way or the other, based on different factors affecting the working of teams. In order to examine these effects, study focuses at the formation of interpersonal relationships within members of Global Virtual Teams (hereafter GVTs), based on characteristics of virtuality and influence of the same team in different projects on relationships. This research is different in a way that it studies the development of interpersonal relationships for the same team while working on different projects rather than focusing on different teams working on projects with different timespans. The thesis is written in the context of a small firm operating in virtual teams from Finland while all of the team members are physically dispersed in different parts of the world.

## 1.1 Background and Overview

Organizations are experiencing a lot more internationalization putting heavy demands on them to coordinate their business efforts across different geographical areas. These kinds of settings are becoming norm where workers are engaged in team based tasks which are dispersed across the globe. These settings require teams to rely on technology in order to coordinate their efforts. Such settings bring many advantages (such as diversity & reduced project time lines) & disadvantages (friction among team members in different geographical locations, time management etc.) for the firms (Shachaf 2008, 134-138). However to be part of the global landscape, firms deem it necessary to operate in virtual teams and not only to rely on traditional ones.

Researches have been conducted to determine how virtuality influences the relationships in GVTs focusing on individual factors such as time differences (Duarte & Snyder 2011), communication (Jarvenpaa & Leidner 1998), leadership (Zaccaro, Ardison & Orvis 2004) trust (Kanawattanachai & Yoo 2002) & multicultural nature of global virtual teams. However, fewer studies have focused on the combined effect of these characteristics together on relationship development in GVTs.

Various previous researches have focused on the characteristics of virtuality with respect to the development of relationships. Butler, Zander, Mockaitis & Sutton (2012) point out conflicting decision-making norms, conflicting attitudes toward hierarchy,

direct versus indirect communication, and trouble with language fluency and accents are some of the issues which global virtual teams have to deal with. For example, Zander, Zettinig & Mäkelä (2013, 2) are of the view that while working in global virtual teams, leadership has to deal with major challenges such as goal alignment, knowledge transfer and motivation; which arise due to temporal and physical distance. Apart from physical distance factors such as time-zone difference, multicultural aspects (including language barriers and norms of working) among team members and trust among members of GVTs are also major contributors to the relationship development. Mockaitis, Rose & Zettinig (2009, 1-6) are of the view that multicultural nature (individualistic vs collective) of GVTs is a major determinant of trust among team members in GVTs. Above authors relate this emergence of trust based on multicultural nature of GVTs with the task they are performing and nature of relationship among themselves.

Previous research shows inconsistency in terms of findings as if the virtuality benefits the firms or it has negative implications (Ortiz de Guinea, Webster & Staples 2012, 301). Current research has identified geographical distance, time difference, language & cultural differences and lack of trust as characteristics that influence the relationships in GVTs (Iorio & Taylor 2014). Although these characteristics have been identified as predictors and guiders of performance of virtual teams they have not been fully explored in terms of critical human factors (such as interpersonal relationships) (Cogliser, Gardner, Gavin & Broberg 2012). There are individual studies focusing on development of these relationships and virtuality characteristics individually; however together the influence of all the characteristics on development of relationships is still underexplored.

(Walther, 1992, 1994) proposes that if there are expectations of future interactions, relationships would develop to be personal and friendly. It shows that the span of time spent together in teams have an influence on the development of relationships. Walther (2002) criticizes the earlier unrealistic findings which concluded that interactions in GVTs are not as social as in face-to-face interactions, as they did not allow enough time to uncover such interaction. Therefore, in his view, it is possible to overcome the weaknesses of interpersonal relationships in the short terms and better working environment can be created. From cultural perspective, Mockaitis, Rose & Zettinig (2012) argued that interpersonal relationships are not only dependent on the duration of the project, but also the type of cultural setting to which team members belong; therefore those who were collective-oriented also have a tendency to build relationships, and that even in teams where the project and tenure duration was short term.

Above mentioned characteristics (trust, physical distance, time difference and cultural differences) need to be studied in relation to interpersonal relationships and furthermore, the influence of project lifespan on the development of these relationships. Cur-



rent research provides varied responses to the phenomena under discussion and therefore it is plausible to conduct further research.

Focus of this research is on the interpersonal relationships of team members in GVTs and development of such relationships in different projects. Interpersonal relationships in this research setting are viewed through the lenses of virtual teams' characteristics including physical distance, time difference, cultural differences, language differences and trust. These characteristics directly influence interpersonal relationships. Since these factors change with the passage of time (e.g. level of trust may increase or decrease based on some events) therefore the process of relationships development is evolutionary in nature by itself. It is important to note that since interpersonal relationships among team members develop over a period of time. Therefore, it is plausible to study that how these teams work and perform their tasks so as to establish a link between interpersonal relationships and its development.

Characteristics of virtuality have an influence on the emergence of relationships among members of virtual teams as described above. However, another factor influencing the emergence of relationships is dependent on the duration of time these members are going to work with each other. Tuckmans stage model of development (1965) describes that teams go through forming, norming, storming and performing stages while working on a particular task. Furst, Reeves, Rosen & Blackburn (2004, 10-13) devel-

Table 1 Virtual team Life cycle Furst, Reeves, Rosen & Blackburn (2004)

Formation	Storming	Norming	Performing
<ul style="list-style-type: none"> <li>• Realistic virtual project team previews</li> <li>• Coaching from experienced team members</li> <li>• Develop a shared understanding and sense of team identity</li> <li>• Develop a clear mission</li> <li>• Acquire senior manager support</li> </ul>	<ul style="list-style-type: none"> <li>• Face-to-face team building sessions</li> <li>• Training on conflict resolution</li> <li>• Encourage conflicting employees to work together to find common ground</li> <li>• Shuttle diplomacy and mediation to create compromise solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Create customized templates or team charters specifying task requirements</li> <li>• Set individual accountabilities, completion dates, and schedules</li> <li>• Establish procedures for information sharing</li> <li>• Distinguish task, social, and contextual information; design procedures appropriate for each</li> <li>• Assign a team coach with skills for managing virtually</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure departmental and company culture supports virtual team work</li> <li>• Provide sponsor support and resources for team to perform</li> </ul>

oped on this model and suggested different types of steps needed for project based virtual teams so as to achieve the end goal (cf. Table 1). It can be inferred from the above study that characteristics of virtuality such as communication and trust (e.g. during storming stage while focusing on face to face communication and conflict management), cultural and language issues (e.g. during forming stage while looking for shared identity) have to be taken care of in order to develop harmonious relationships among team members.

In the given context of research where projects are marked by a specific start and end date, it is equally important to establish the relationship among characteristics of virtual-

ity with project life cycle. There are multiple approaches present in literature focusing on the project life cycle. However, all projects go through different phases and these phases can be grouped as initiation, planning, execution & development, monitoring & control and completion (Wysocki & McGary, 2003). These stages are important in the context of this study because focus would be on different events taking place at different stages of project while focus would be on relationship development among the team members. It is a process based study where different events taking place would develop the outcome. Distinction should be made at this early stage of the study that these events are being studied in relation to “process theory”. According to this theory outcomes are not worked backwards to know the changes but is the process of how change unfolds itself (Van de Ven & Engleman 2004, 345)<sup>1</sup>.

It is speculated at this stage that at different stages of project and group dynamics, characteristics of virtuality will have influence on the relationships of team members. This influence would change the nature of relationships with the passage of time. Therefore, it is the study of “change as it unfolds” and its influence on relationships development.

## 1.2 Boundary of Research

Purpose of this research is to identify the influence of virtuality variables on interpersonal relationships and ultimately on development of such relationships; over the life of different projects for the same team. It is important to note that interpersonal relationships focus both on relationships dynamics among team members in the perspective of virtuality and also the influence of project lifespan. Literature discussed below discusses these relationships, based on the nature of GVTs, where formal hierarchal team management and leadership may or may not exist.

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<sup>1</sup> Two different definitions of “process” are often used in the literature: (1) a category of concepts or variables that pertain to actions and activities and (2) a narrative describing how things develop and change (Van de Ven, 1992b). When the first definition is used, process is typically associated with a “variance theory” (Mohr, 1982) of change, where an outcome-driven explanation examines the degrees to which a set of independent variables statistically explain variations in some outcome criteria (dependent variables). The second meaning of process takes an event-driven approach that is often associated with a “process theory” explanation of the temporal order, and sequence of change events occurs based on a story of historical narrative (Abbott, 1988; Pentland, 1999; Poole et al., 2000). In this usage, the issue of “how change unfolds” is addressed by narrating the temporal sequence of events that unfold in an institutional arrangement.

It is important to consider the generalizability of this research, at this early stage, so that different actors involved during the process could benefit from the findings. Apart from the practical implication for different actors, this study also has the academic implications. This study enables to bring together two (team members and managers behavior) of many important factors together while being affected by the characteristics of virtual teams. However, it focuses on one specific case of a small firm and therefore the generalizability of results may not be plausible. However, the phenomena of development of relationships in global virtual teams has not been studied to a great deal while considering both team behavior and managerial influence, therefore, it is considered that exploratory nature of this case would provide grounds for future research. It would enable to provide a starting point for taking more cases into consideration at a later stage and generalize the findings across GVTs in different kinds of firms.

It is a focused study in the sense that it works with one case study and it would not be plausible to generalize its results at this stage. However, the research process undertaken to explore the phenomena of relationships is dynamic in nature as it considers teams working on different projects simultaneously. Also at the same time, certain members of team are being replaced while most of the team remains the same. Therefore the results of this study are specific to small firms however they extensively explain team dynamics and its influence on members while working in the same team but different projects with the replacement of few members depending on the nature of projects.

All in all, an effort has been made to come up with an exploratory study to provide a starting point for knowing the functioning and development of relationships in GVTs while considering the factors of virtuality. Therefore, it is considered plausible to form a research setting where maximum empirical data can be gathered to answer the problem under consideration with enough evidence to support the results.

### **1.3 Research Questions and Structure of Study**

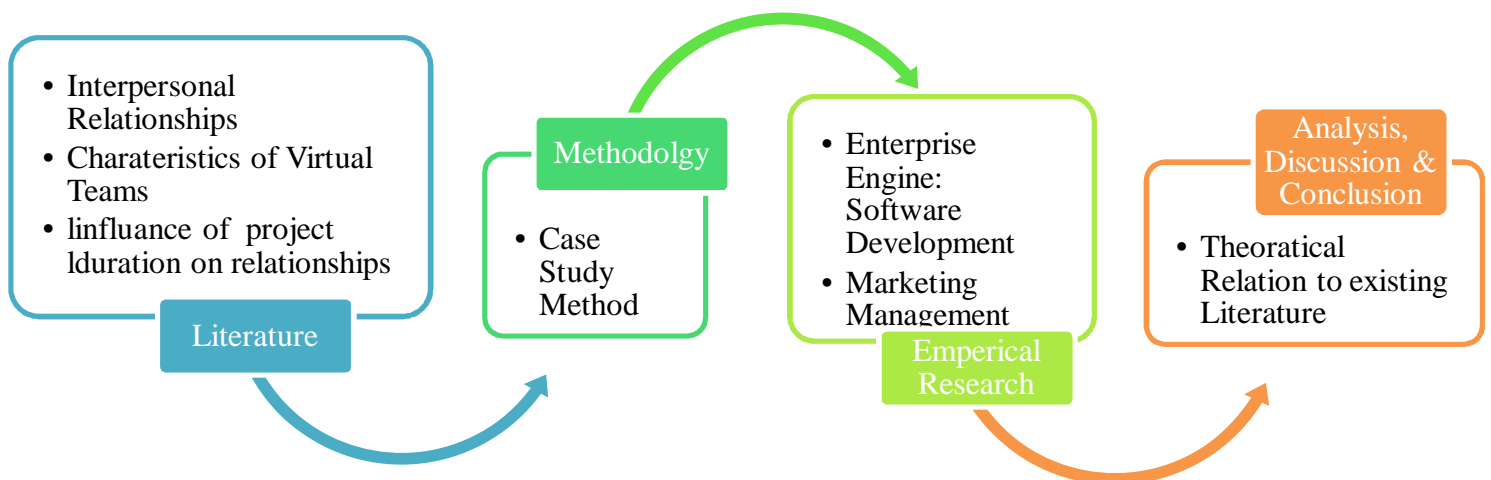
Main research problem for the purpose of this study has been set as follows *how do relationships between the same members of GVT develop over a variety of projects?* Two sub-questions have been created to further insight into the issue under investigation: (a) *how do characteristics of virtuality influence the relationships?* and (b) *How do project duration influence project members' relationships?* First sub-question deals with the process of relationship building among team members. Dynamics of relationships have been studied previously in relation to different variables such as trust, multiculturalism and distance but these studies mostly deal with one of these factors at a time. There are only few studies which have taken a collective approach towards this process and therefore in the first sub-question, this study tries to establish the influence of characteristics

of virtuality, as a whole, on development of relationships. In this context it seems plausible to first identify the process of virtual team formation and functioning while relationships take a center stage. It is evident that relationships are not static and they develop over a period of time, therefore, it is equally important to address the issue of dynamic nature of relationships.

Relationships and teams develop over a period of time and therefore it is important to note the duration of time a team is going to be together. Once, it has been established that how does GVTs work in the context of relationship dynamics and characteristics of virtuality; then the research focuses on different projects (in terms of their lifespan) and its influence on development of these relationships. It is plausible to look at the time span of different projects during which the relationships develop. It is likely that the relationships among GVT members are going to develop differently when they are working on different projects depending on the lifespan of the projects. Apart from the above explanation, second sub-question also looks at the process when most of the team members remain same but based on project needs more members are added or some temporary members leave the team.

The purpose of this research is to identify the influence of virtuality variables on interpersonal relationships and ultimately development of relationships over the life of different projects for the same team. This research explores the dynamics of relationships when team members come together to work on a certain project and over the span of the project different events affect and influence the development of their relationships.

Research begins with the analysis of previous literature available on the interpersonal relationships, characteristics of virtual teams and their development (Chapter 2). It is necessary to form theoretical basis and to find out previous knowledge available so as to know how relationships develop in GVTs.



**Figure 1**      **Structure of thesis**

Chapter 3 discusses methodology and methods used in order for this research to happen. It also covers the discussion about data collection and data analysis. Overall, comparative case study method has been applied to this particular problem under discussion.

Chapter 4 covers the discussion about the practicalities related to the process of data collection such as the nature of interviews, introduction of the interviewees and data collection through company records. Lastly, Chapter 5 comprises of the findings and analysis. Where collected data has been presented and analyzed through thematic analysis approach.

Chapter 6 focuses on the observations drawn based on the analysis. Also this chapter looks back at the initial research questions and provide answers to those questions based on empirical evidence. Discussions on analysis and answers to research questions are being dealt at two levels where comparison to existing literature (covered in chapter 2) is made to find out similarities & difference while also looking at the prospects of new contribution to literature and future research. The similarities and further extensions to existing literature have been discussed under academic contributions and future research sections. In the end, Chapter 6 reports on the managerial implications of this study through practical contributions section before focusing on conclusions.

## 2 LITERATURE REVIEW & THEORETICAL FRAMEWORK

This chapter introduces theoretical framework of the thesis by looking into previously available literature. It focuses on interpersonal relationships, characteristics of virtual teams and interpersonal relationships and development of relationships in GVTs with reference to different projects, in the end, this chapter presents the synthesis of literature review.

### 2.1 Interpersonal Relationships

Interpersonal relationships have been under investigation for quite some time in different spheres of research including anthropological (Cohen 1955, 121-147) and business studies (Bartlett & Ghoshal 1999) where it has been viewed from personal life perspective and business aspects, respectively. For the purpose of this study, the focus is on interpersonal relationships in terms of organizations and virtual teams. Proponents of social exchange theory (SET) are of the view that for any relationship to exist there has to be a reciprocal flow of valued behavior among the participants (Emerson 1976, 346-347).

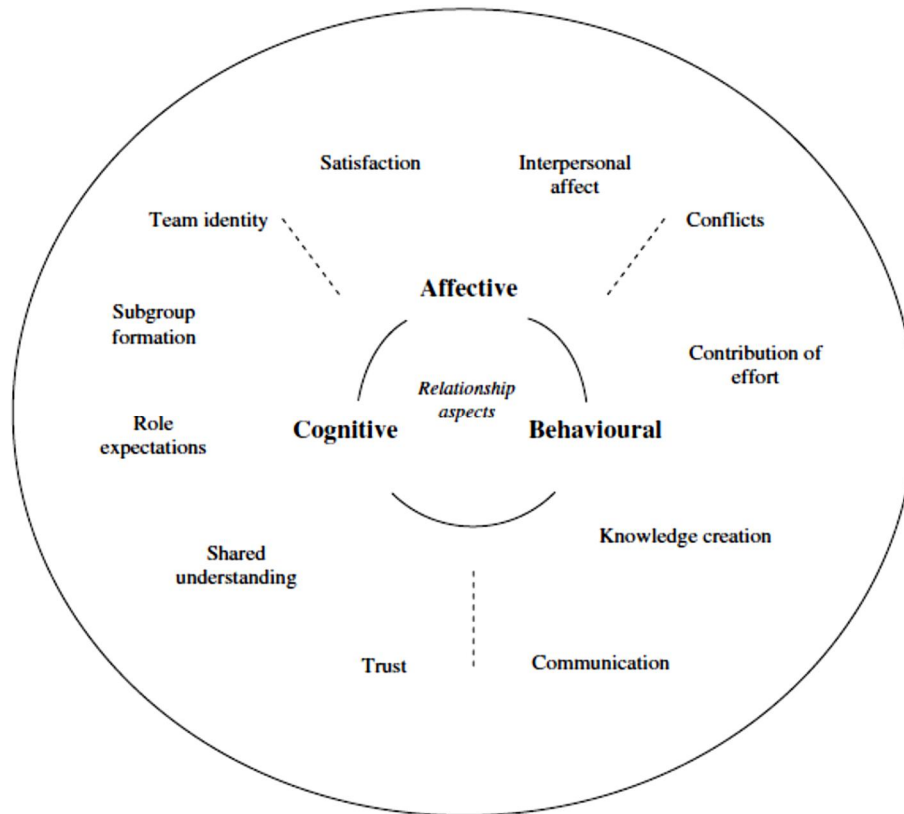
In terms of organizations and virtual teams, it means that when teams are working towards a common goal (value for the team and organization) their behavior has to be positively reinforced within the team and organization. It would lead to the creation of positive relationships and this situation can be viewed as otherwise where negative behavior leads to negative relationships.

Relationships have been discussed in various aspects and have been categorized into cognitive, affective and behavioral classes (Zimmermann 2011, 61). Figure 2, shows these different aspects of relationships. From figure 2, it is evident that relationships can be viewed from varied perspectives. During this study, focus is on the interpersonal effect of relationships in virtual teams and hence Interpersonal Relationships. Zimmermann (2011, 70) defines these interpersonal relationships as:

*“The positive or negative feelings that team members hold towards each other, which includes liking and dislike as well as attraction, attachment and affection.”*

It is important to note that when discussing interpersonal relationships, study does not limit itself to the team members who have physical access to each other but focuses on all the members in contact with each other through any kind of media available. Based on the above definition of interpersonal relationships, later parts of this literature focus on virtual teams and their characteristics; including physical distance, time differ-

ence, cultural differences and trust as characteristics in relation to interpersonal relationships and their development.



**Figure 2 Aspects of Relationships (Zimmermann 2011)**

## 2.2 Virtual Teams

Virtual teams are a well-accepted norm of modern workplace and some researches show these teams to be playing critical role in organizations success (Gilson, Maynard & Bergiel 2013, 412-427). It is considered that around 60% of employees in organizations have been part of some virtual team setup (Kanawattanachai & Yoo 2002, 188-189). There are multiple definitions of virtual teams available however none is universally accepted (Curseu, Schalk & Wessel 2008, 630). Hertel, Geister & Konradt (2005, 69-95) are of the view that there are different terms used to define virtual nature of work being performed such as teleworks, virtual groups and virtual teams; however as minimum criteria:

*“Virtual teams consist of (a) two or more persons who (b) collaborate interactively to achieve common goals, while (c) at least one of the team members work at a*

*different location, organization, or at a different time so that (d) communication and coordination is predominantly based on electronic communication media”.*

In order to find the development of interpersonal relationships in GVTs, it is plausible to look at how these teams come into existence and with the passage of time how do they develop based on team members’ relationships. Following section focuses on structure of different kinds of GVTs and the process of team formation & functioning. Once these parameters have been established, later part of this section discusses the variables of virtuality in these teams. It shall be noted that the formation, functioning and relationships of team members are the variables which are affecting each other and taking place simultaneously, however for the purpose of clarity and understanding they have been discussed individually.

### 2.2.1 Team Compositions

This section discusses different models of team compositions in general. Purpose of this section is to establish that how teams are composed and how does members relate to different tasks. Also it looks at the interpersonal relationships of members from the perspective of composition literature. It clarifies the basis of integration of teams around team members and tasks needed to be performed by them.

Team composition refers to mix of attributes of team members and combined effect of these on performance of teams (Wageman & Hackman 2005, 38-39). There are different models of team composition available, developed over a period of time. These different models have been categorized into four groups according to their dominant focus either on teams or individuals (Mathieu, Tannenbaum, Donsbach & Alliger 2014, 2). Table 1 shows different attributes of these models.

**Table 2 Team Composition Models – (Mathieu, Tannenbaum, Donsbach & Alliger 2014)**

Four Models of Team Composition Effectiveness		
	Individual Focus	Team Focus
Individual models	Traditional personnel–position fit model	Personnel model with teamwork considerations
	<i>Position-specific KSAOs</i>	<i>Team-generic KSAOs</i>
	<ul style="list-style-type: none"> <li>• Cognitive ability</li> <li>• Psychomotor ability</li> <li>• Conscientiousness</li> </ul>	<ul style="list-style-type: none"> <li>• Organizing skills</li> <li>• Cooperativeness</li> <li>• Team orientation</li> </ul>
Team models	Relative contribution model	Team profile model
	<i>Relative KSAOs</i>	<i>KSAO distributions</i>
	<ul style="list-style-type: none"> <li>• Weakest member</li> <li>• Highest leader propensity</li> <li>• Cooperativeness of most central person</li> </ul>	<ul style="list-style-type: none"> <li>• Particular language skills or tacit knowledge somewhere in the team</li> <li>• Functional diversity</li> <li>• Fault lines</li> </ul>
Note: KSAOs = knowledge, skills, abilities, and other characteristics.		



Traditional personnel fit-model of team development focuses on the fact that when organizations are choosing their employees to function in teams; they shall consider employees' capabilities according to the situation in which they are going to work (Chatman 1989, 333). This traditional model does not take into consideration the interpersonal relationships of employees and rather relates members with the job only. Later on personnel model with team work considerations developed to move away from HR considerations however the focus is still on the individual performance which leads to the team performance. As opposed to individual models, team based models consider that contribution of individuals to team performance is not equally weighted but depends on few key individuals and how they facilitate the process of interpersonal relationships among team members (Mathieu, Tannenbaum, Donsbach & Alliger 2013, 4.).

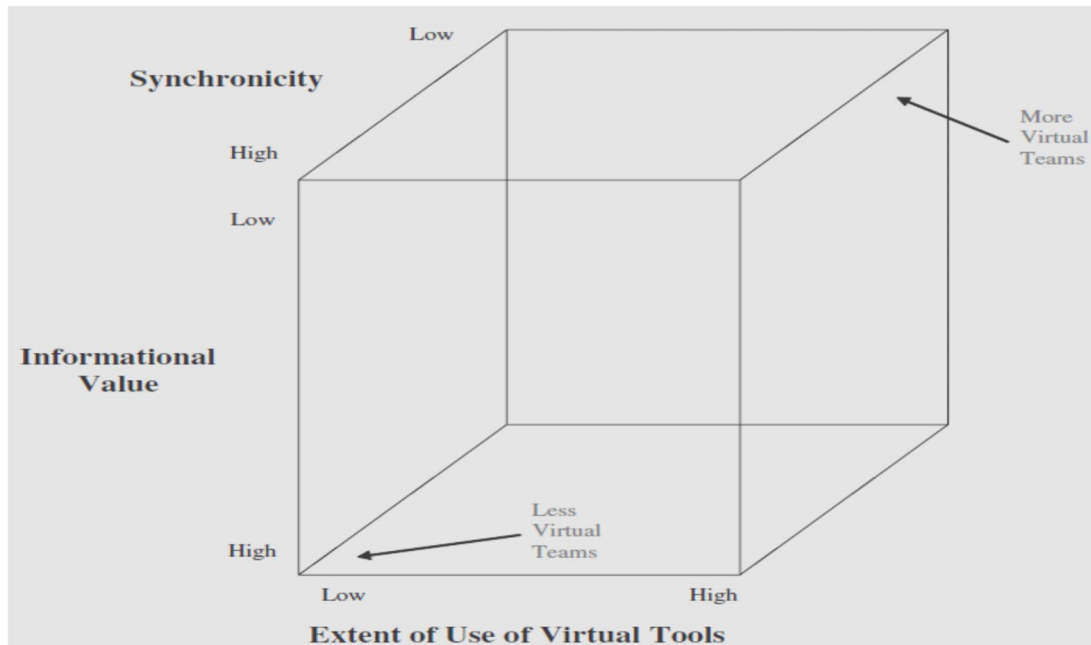
Table 2, summarizes team composition models. These models lack consideration towards different characteristics of virtual teams. As per the purpose of this research, in order to study the development of relationships in GVTs based on their workflow it is important to look at different constructs of these teams. It will help in finding out the differences from normal teams. It will also help in establishing the basis for relating factors (Time-zone differences, physical distance, language differences, cultural differences and trust issues) directly to virtual teams in terms of interpersonal relationships.

### ***2.2.2 Constructs of Virtual Teams***

Different disciplines have researched the phenomenon of virtual teams and there exist different views about the virtuality of teams. A major difference exists as to if the virtual teams are different than co-located teams. One stream of literature argues that virtual teams represent a totally new type of teams and cannot simply be integrated into existing typologies (Bell & Kozlowski 2002, 14-49). Other stream of literature argues that due to evolution of technologies, all types of teams do have some level of virtuality and therefore it is unrealistic and artificial to differentiate among co-located and virtual teams (Cohen & Gibson 2003, 1-13; Griffith & Neale 2001, 379-421).

Building on the recent literature, Kirkman, & Mathieu (2005, 702) are of the view that in recent forms of organizations, virtuality does exist in most of the teams and it's the level of virtuality which may differ. Figure 3 highlights three different constructs which can describe the level of virtuality of these teams.

Townsend & Hendrickson (1998,20) are of the view that virtual teams are possible only due to the tools available in the form of internet, computers and other non-face to face communication means and the level of virtuality would depend on how extensively these tools would be used. If the level of face-to-face interactions is more than the level



**Figure 3 Three dimensional model of team virtuality (Kirkman, & Mathieu 2005)**

of reliance on virtual teams then these teams would be on the lower side of the spectrum of virtuality and vis-à-vis.

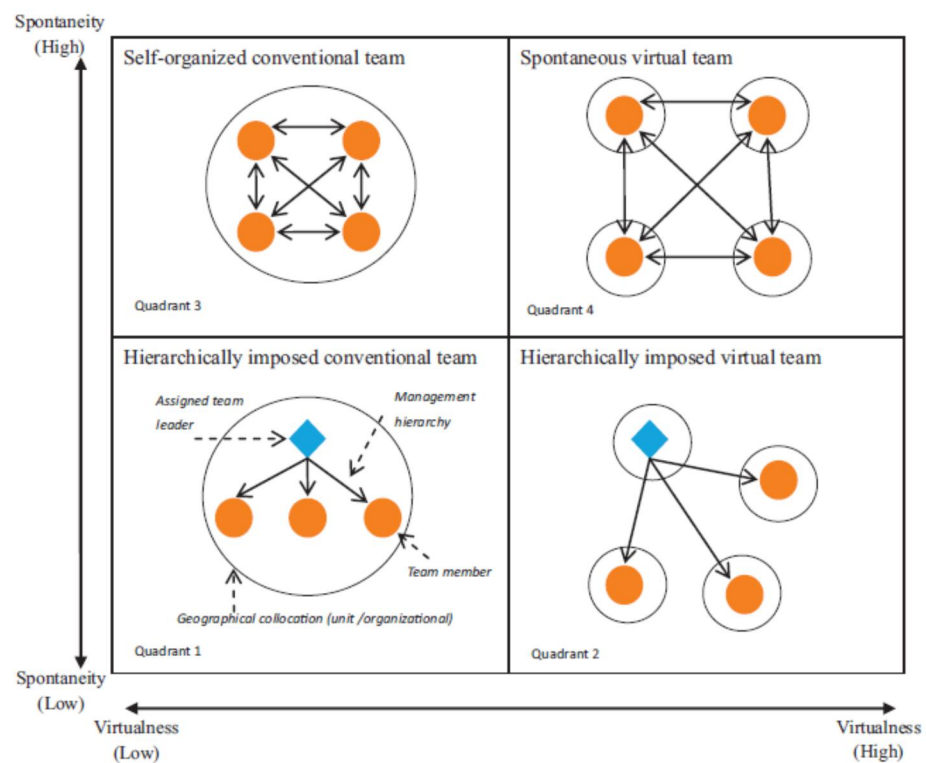
In above model, informational value refers to the extent to which virtual tools send or receive communication or data that are valuable for team effectiveness. It is argued that when members employ technologies that convey rich, valuable information, then their exchanges are less virtual than when they employ technologies that provide less valuable information. Informational value recognizes that teams use virtual tools for much more than communicating. Thus, the lower the informational value of virtual tools, the higher the level of virtuality (Kirkman, & Mathieu 2005, 704.). Synchronicity refers to the communication among team members happening in real time without any lag. It is considered that if there is lag between the communication teams are to be considered more virtual in nature than otherwise. Tannenbaum, Donsbach & Alliger (2013, 1-31) refer to this synchronicity as temporal difference and take it as a basis to describe the dynamic nature of virtual teams. Based on above dimensions it can be considered that level of virtuality may differ across different kinds of teams and would be more in case of GVTs as compared to co-located teams.

These construct define the level of virtuality of different teams and at this point it is plausible to consider that level of virtuality is directly related to the functioning and working of GVTs (see section summary 2.2.4).

### 2.2.3 Structure of Teams

Based on the definition of virtual teams (Section 2.1, 15-16), virtualization of teams can be attributed to technological and organizational structural factors. Tong, Yang & Teo (2013, 263) presented the following model based on virtuality in organizations and their spontaneity in order to categorize different teams. According to the authors,

“The concept of spontaneity generally refers to the degree to which individual employees adopt a proactive self-starting and self-managing approach to relevant corporate tasks. Virtualness refers to the degree of technological means team members use for coordination and communication.”



**Figure 4** Structure of Teams (Tong, Yang & Teo 2013, 263)

Since this research is focusing on virtual teams therefore structure of these teams has been discussed below. Hierarchically imposed virtual teams and spontaneous virtual teams are two categories of virtual teams being defined in this model. The difference is that in later there is no clear team leader and tasks are being initiated and managed by the members simultaneously where as in the former there are team leaders available coordinating and managing the teams.

These structures have implications on the working of virtual teams in terms of their level of formalization and coordination of day to day activities and therefore drive the kind of relationships GVT members are going to have.

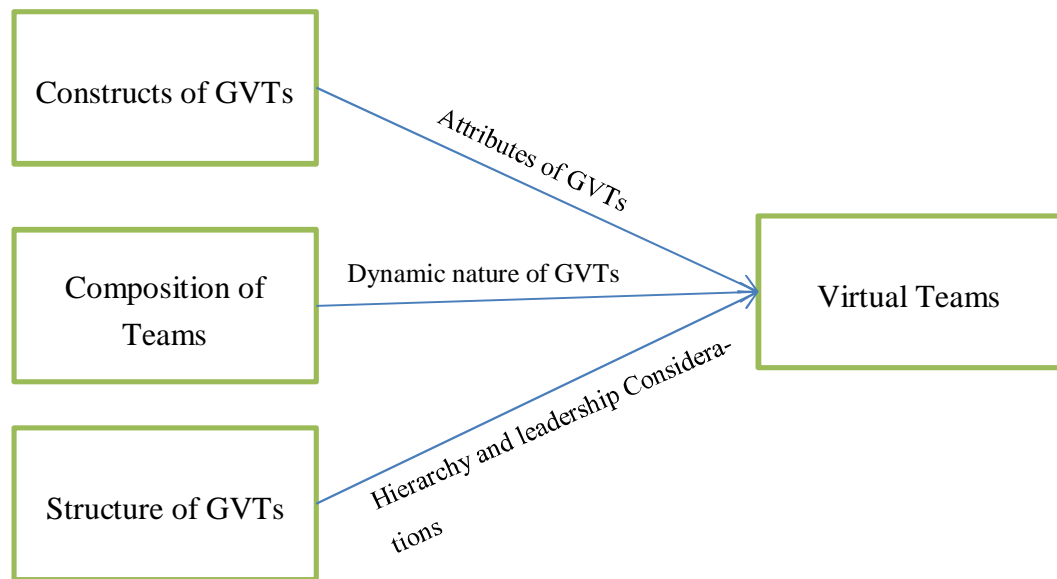
#### 2.2.4 *Section Summary*

Section 2.2 and subsequent sub-sections discuss composition and constructs of GVTs. As described earlier, there is no consensus on the definition of GVTs therefore these teams have been defined in a way to address their project based nature and interpersonal relationships. Composition of teams discusses the way different kinds of teams are formed based on the tasks they have to perform. Traditional teams focus on individual performance and believe that it will form the overall performance of team. Team based models focus more on the issue that it is not only the relationship of the task and individual responsible for it, but for teams to perform optimally, interpersonal relationships of employees have to be taken into consideration as well.

This leads to the discussion about traditional teams and GVTs that although they are composed in a certain way but what is the major difference between the two. One major difference is the time-zone difference and it affects the level of virtuality of these teams. It is therefore, specifically important to look at the constructs of virtual teams including synchronicity of communication, use of virtual tools and informational value. As these factors are used to distinguishing between traditional and virtual teams. These factors help to define the level of virtuality but also they highlight some of the attributes of virtual teams such as time-zone differences and physical distance involved, the means of communication & language and level of information shared, which can act as basis for trust formation.

Based on the constructs of virtual teams and their evident and subliminal impact, it can be established that teams develop over a period of time and are dynamic in nature. Since communication tools and communication in itself develop over a period of time therefore, due to the frequency of contact among employees, level of trust would be effected. Hence study of dynamic nature of teams would lead to develop a better understanding about work processes of these teams.

Since this dynamic nature of GVTs is dependent on characteristics such as trust, time-zone difference, physical distance and cultural & language differences, therefore it is plausible to look at these characteristics to establish their link with interpersonal relationship of employees. Structures of virtual teams also have an influence on the type of relationships employees are going to have among themselves and with their bosses. Therefore, for empirical data gathering, while discussing the dynamic nature of GVTs, it is important to deliberate on the structure of these teams and their hierarchical approaches. This is in line with the first research question where the purpose is to find out how does virtual teams function and develop over a period of time. Figure 5, depicts the above discussion related to virtual teams in graphical form.



**Figure 5 Formation and Functioning of GVTs**

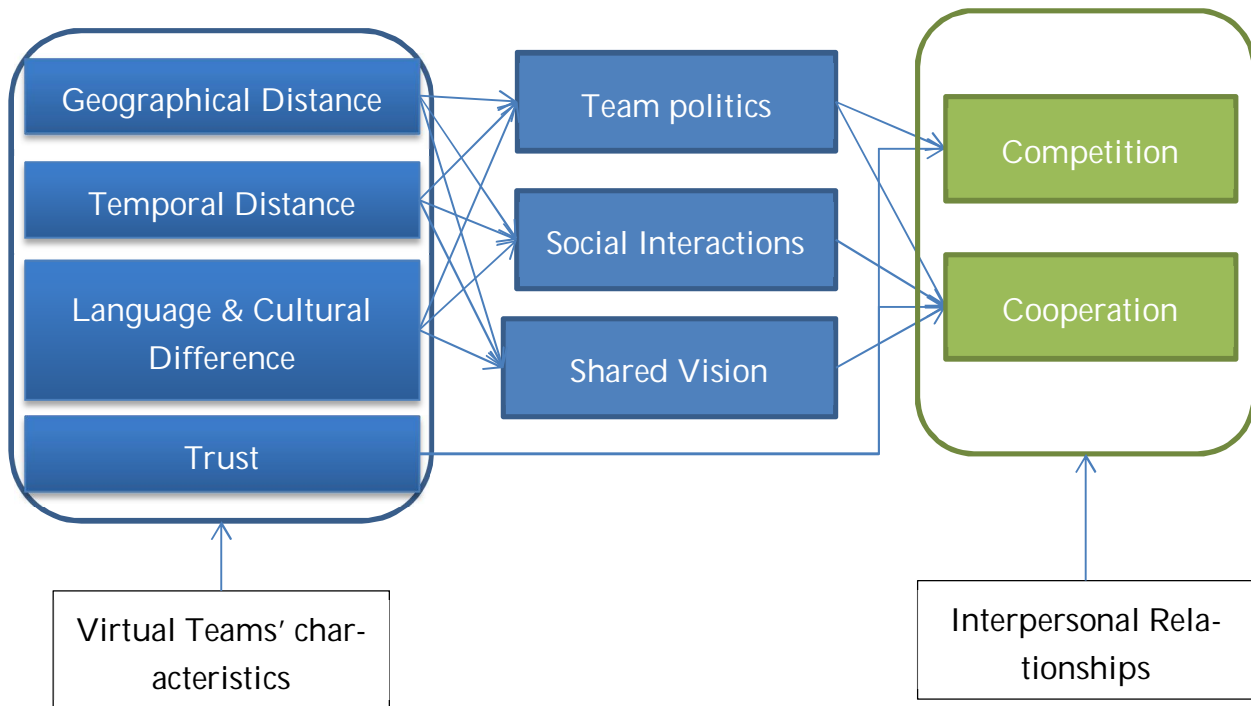
In terms of group dynamics and project life cycle, above figure points out the factors to be taken into consideration while ‘forming’ teams while projects are still in the initialization phase. The process of change being unfold can start as early as this point where composition and structure of the team has to be taken into consideration. These factors can trigger events (for example, authority issues) which would guide the future of relationship development among team members.

### 2.3 Characteristic of Virtual teams and Interpersonal Relationships

Lurey and Raisinghani (2001) shows that team members’ relations are one of the decisive factors for success of virtual teams. Virtual teams are different than normal teams in many aspects including geographical distance (Cummings 2011), temporal distance (Berson, Halevy, Shamir and Erez 2014), language difference, cultural Difference (Klitmøller, Luring 2013) and trust formation processes (Kanawattanachai & Yoo 2002).

While above characteristic are the building blocks of GVTs, interpersonal relationships within a team or virtual teams are comprised of two elements: cooperation and competition (Baruch & Lin 2012, 1155). If both the elements co-exist, then the relationship between the members is considered coopetition (Bengtsson & Kock 2000, 411-426). In modern organizational settings, teams are encouraged to both compete and cooperate which presents the challenge of managing workflows (Tsai 2002, 179-180). Baruch & Lin (2012, 1162.) are of the view that sense of competition or cooperation is dependent on team politics, trust, social interaction and shared vision of the team mem-

bers. Basing on the existing model of Baruch & Lin (2012, 1162) following model has been formed to explain relationship between characteristics of virtuality and interpersonal relationships.



**Figure 6 Virtual Teams and interpersonal Relationships**

Above model depicts that how individual characteristics of virtual teams impact interpersonal relationships. It is important to note that these characteristics have their individual impact but they also have an effect on each other. Following sub sections discuss these characteristics and their interpersonal relationship along with the effect on interpersonal relationships. While these characteristics do influence interpersonal relationships, the process of how it happens is still unclear. There could be events acting as triggers (e.g. asynchronous communication leading to more time consumption while deadlines are tight or personal issues among members) for changes among members' behaviour.

### **2.3.1 Distance and Interpersonal Relationships**

This section deals with both the physical and temporal distance. As it is evident that GVTs includes members from different geographical parts of the world and therefore temporal distance is related and given in case of such teams. A substantial body of research has demonstrated a positive relationship between the physical distance and interpersonal liking (e.g., Festinger, Schachter, & Back, 1950; Maisonneuve, Palmade, &

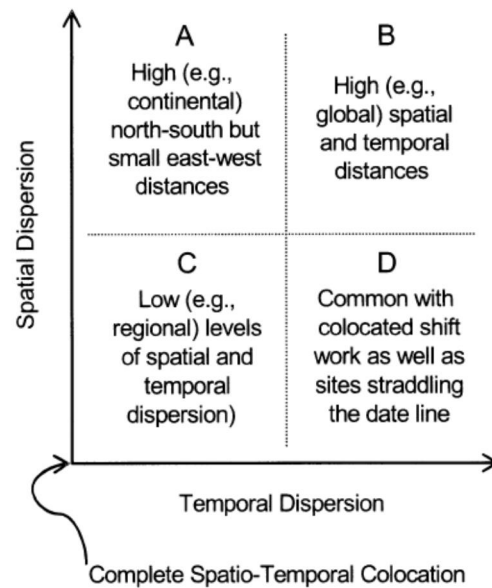
Fourment, 1952), and how that relates to higher levels of communication (Athanasiou & Yoshioka, 1973; Kahn & McGaughey, 1977).

In their research, Kraut, Fussell, Brennan & Siegel (2002) suggest that close proximity enables easier collaboration among team members because it becomes easier to start communication, conduct a conversation and also easier to maintain awareness of what other members are doing. As per our research question, it is important to note that research gap exists to be filled about the impact of distance on the collaboration of team members and how do they function in teams. Physical distance is not a static measure but it effects the functioning of teams in multiple ways.

O'Leary and Cummings (2007) present different ways to measure team dispersion. Number of sites is a measure showing how dispersed members are from each other. At a single site, the number of members represents that how isolated a member is. If there are one or few members per site they are more isolated. This isolation has an impact on communication among members and ultimately the function of the team. Lastly, if there are equal number of members at each site, no one site would have major influence on the working and decision making; however, if the sites are imbalanced, the site with maximum number of members is going to have major influence. Apart from above measures, the longer the physical distance among members harder it would be to communicate. Following model from O'Leary and Cummings (2007, 439) explains dispersion among teams based on spatial and temporal distance.

Due to larger distances, members of such teams are going to be located in different time zones and therefore some members may be working out of their office hours to communicate. This will hinder the communication process and affect the working of teams (Axtell, Fleck and Turner 2004, 208). Temporal dispersion becomes relevant at larger spatial distances when spontaneous communication becomes difficult, decreases the potential for synchronous interaction and, thus, reduces real-time problem solving (Burke, Chidambaram and Johnson 1999, 453-490). However, it shall be noted that this asynchronous communication also presents the opportunity to members to think and form their replies better than spontaneous communication.

Based on arguments of O'Leary and Cummings (2002), Axtell, Fleck and Turner (2004, 210) are of the view that physical distance and dispersion tend to weaken relational ties, and there is a lower likelihood of relational ties developing. Also, distance and dispersion make it harder for teams to perform collaborative work and in many cases makes it less likely to happen, and have been found to reduce the likelihood of communication taking place.



**Figure 7** Combinations of spatial and temporal dispersion in teams (O'Leary and Cummings, 2007)

Above discussion summarizes three different perspectives related to distance and interpersonal relationships among team members. These perspectives include geographical distance (spatial), temporal distance and team configurations. It is evident from previous research that longer spatial distances would lead to weaker interpersonal relationships; furthermore, temporal distance among team members is going to lead to limited time overlap available and therefore would negatively affect interpersonal relations and problem solving.

### Technology based Communication

Above discussion shows that major cause of weaker and negative interpersonal relationships is due to lack of face to face communication and therefore GVTs rely on advanced technological based communications to lessen this negative effect. Advanced telecommunications have provided with many advantages such as coordinating with other members at long distances and in different time zones. It helps to save time and use the best possible human resources to meet the end goals. There are multiple research views available regarding the role mediated role of these tools on interpersonal relationships. Earlier research (mentioned above) proposes that distances are going to weaken the ties and technology can play a role but it is not going to be as effective as face to face communication.

Relationships and teams develop over a period of time and therefore it is important to note the length of time a team is going to be together in order to study the effect of these

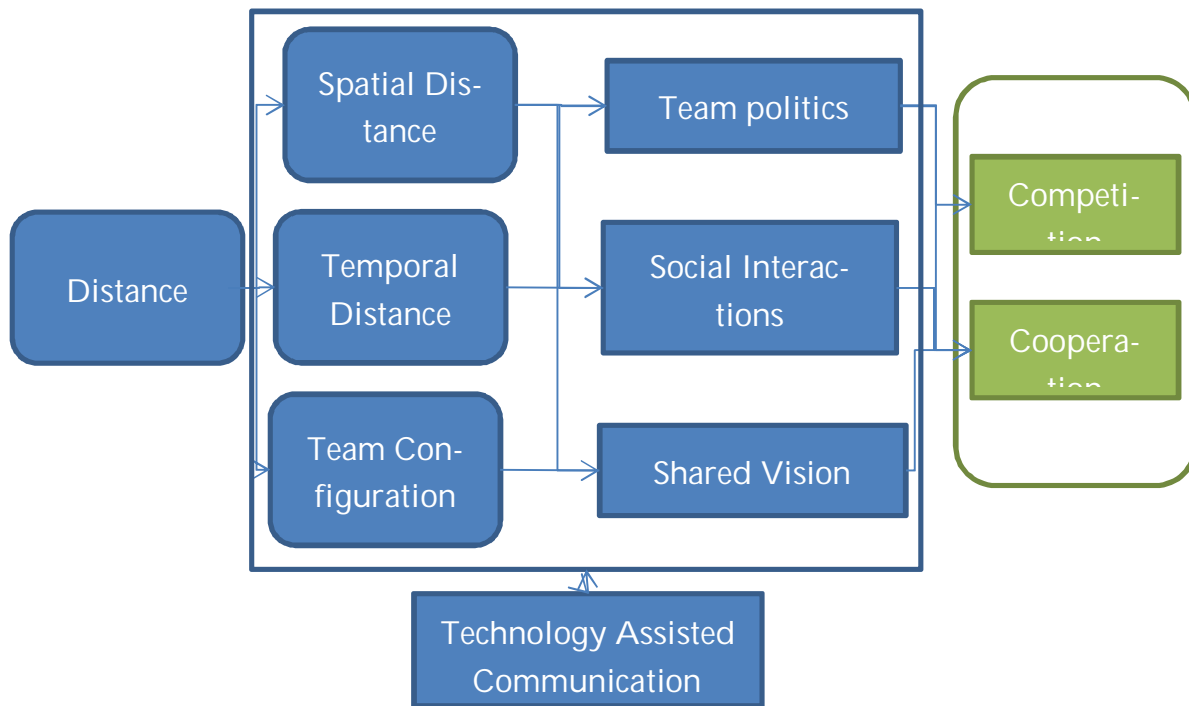


technological based communications. Social Information Processing theory (SIP) proposes that if there are expectations of future interaction, then communications via technology will be personal and friendly (Walther, 1992, 1994). Therefore it is possible to overcome the weaknesses of interpersonal relationships and form better working environment. Walther (2002) criticizes the earlier unrealistic findings which concluded that computer-mediated communication is not social, as they did not allow enough time to uncover such interaction.

Interpersonal relationships through communications technology can also be more extreme and intense than face-to-face relations. The hyper-personal perspective (Walther, 1996) proposes that such relationships are based on limited information revealed in technology-mediated communication and group identity cues, which then become over attributed in the absence of contradicting evidence. Thus, interpersonal relationships of members in a team may be exaggerated either positively or negatively (Walther, 1997). These findings are consistent with figure 6, where it is shown that distance help in creating shared vision which would lead to cooperation among team members.

Also the level of media richness (discussed earlier section 2.2.2) in communication does play a role in terms of mitigating the negative impact of spatial and temporal distance. The rich the communication channel is in terms of visual and non-visual attributes better it is for interpersonal relationships. This is possible because richer the media, higher the level of social interactions would be. This would also lead towards high level of cooperation among team members and therefore lead to strong interpersonal relationships.

It can be proposed at this stage that distance and configuration of teams due to distance have a negative impact on interpersonal ties as compared to face-to-face communication. As shown in figure 6 this negativity may lead to politics in teams which would in turn lead to negative competition or non-cooperation among team members. This negativity can be addressed by using advanced technological communication systems. However no conclusive evidence is available to the level of positive impact these technological communications are going to have on interpersonal relationships as different perspectives of use of such communication present different results ranging from no impact to intense impact that face to face communications.



**Figure 8 Impact of Distance on Interpersonal Relationships & team Functioning**

With reference to distance and interpersonal relationships it can be deduced at this point that:

- At a general level, distance (both spatial and temporal) has a negative impact on interpersonal relationships and tends to weaken interpersonal ties.
- Balanced team configuration has a positive relationship towards cooperation and group decision making and therefore affects interpersonal relationships positively.
- Longer the life of virtual teams better the interpersonal relationships would become over time.
- The Higher the level of media richness, the stronger the interpersonal ties are going to be.

The kind of deduction made above, is typical in quantitative studies where hypothesis building has to be performed. However, this deductive approach is beneficial in terms of this qualitative study so as to form a perspective towards the elements needed to be focused during research process. Otherwise, because of the vast of amount of pre-existing literature in this field it is possible to loss track and focus during the empirical research part.

### **2.3.2 Trust and Interpersonal Relationships**

Researchers have been studying interpersonal relationships and intergroup cooperative behavior through constructs such as trust and monitoring with the results showing that these constructs have an influence on cooperation among team members (Ferrin, Bligh and Kohles 2007, 466). Cooperation is crucial for the survival of organizations (Barnard, 1938), and trust and monitoring are frequently recognized as important antecedents of cooperation. Golembiewski & McConkie, (1975, 131-185) cite trust as to be one of the strongest variables to influence interpersonal relationships.

Trust can be defined in multiple ways depending on the nature of relationships including individual or organizational context. On a broader scale, “trust is a psychological state that provides a representation of how individuals understand their relationship with another party in situations that involve risk or vulnerability” (Dirks and Ferrin 2001, 456). Ferrin, Bligh and Kohles (2007, 469) argue that in interpersonal trust, members often have motives to both cooperate and compete with each other so as to maximize the collective interest yet also maximize their self-interest at the expense of the collective interest. Trust, therefore, presents both with benefits as well as risks to members of teams.

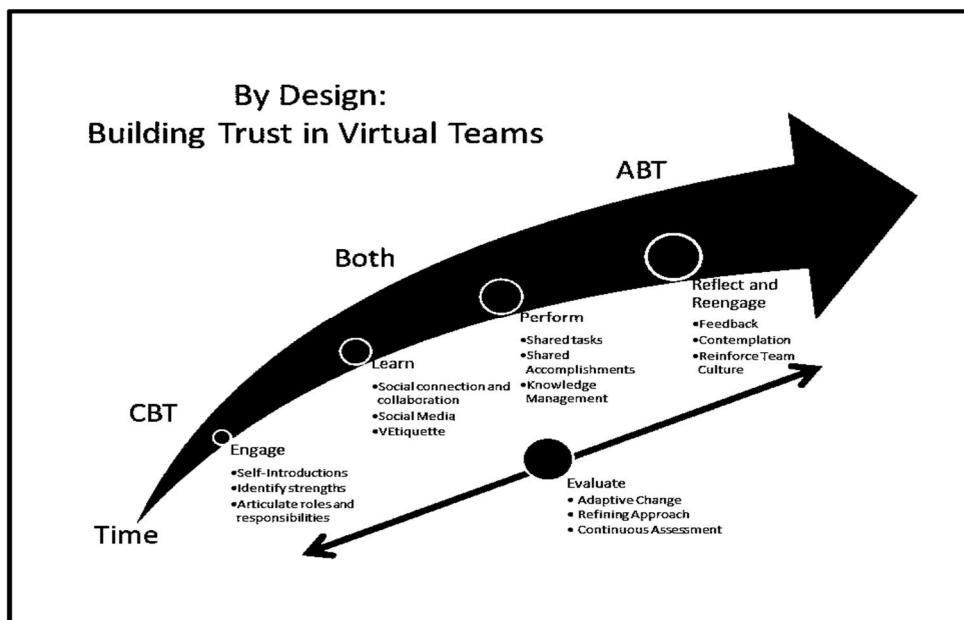
Most of the trust-related research appears to position trust as a variable that has direct effects on work group process (Dirks 1999, 446). When the level of trust is increased, a group is expected to experience higher level of cooperation; when trust is decreased, a group is expected to experience lower level of cooperation and sometimes experience competition instead of cooperation (Mayer, Davis, & Schoorman, 1995, 728).

On the contrary, it is argued that groups with higher levels of trust does not necessarily have better processes and better performance than groups with low levels of trust. Instead, trust has a moderating influence on motivation and other behavioral factors which are translated into group process and performance. Dirks (1999, 460) argues that , in high-trust groups, it is the motivation which is transformed joint efforts which leads to better performance than low performing groups where motivation is transformed into individual efforts. This is consistent to the model presented in figure 6 that trust has an impact on interpersonal relationships where it either stimulates cooperation or competition among team members and in turn that is going to have an impact on the performance of the teams.

Different studies focus on different aspects of trust such as in case of close relationships it is considered to be based on faith while in organizational context it is known to have moderating effect through communication quality, organizational performance or organizational citizenship (Hamid 2008, 259-268). It is therefore important to focus on the context in which trust is playing a moderating role, in the case of this study it to be the GVTs which heavily rely on technology infrastructure for communications.

McKnight, Cummings, & Chervany (1998, 474) conducted a research on the initial level of trust among the team members and they found that it is often strong from the very beginning of a team's work, even when there has not been any prior contact among the members because this trust is a function of individuals' general disposition to trust and other shared organizational factors. However, initial trust is assumption-based and only occurs in the absence of contradicting evidence (Axtell, Fleck and Turner 2004, 224) hence trust is likely to decrease as unexpected and negative information about the parties becomes evident. Due to this reason, Crisp and Jarvenpaa (2000) hypothesized that trust will decrease over time in virtual teams. Jarvenpaa and Leidner (1999) also found that the level of social information shared among the members of GVTs is also detrimental on the level of initial trust members are going to have. However they also observed that this high level of trust is only sustainable if further task-based communication also takes place.

Virtuality of teams affects different components of trust at different levels. There is evidence to suggest that cognitive based trust (including competence, reliability, professionalism, and integrity) is particularly important in initial phases to develop cohesiveness in these teams and can develop to similar levels in co-located and virtual teams (Axtell, Fleck and Turner 2004). On the contrary, in GVTs, affective trust (refers to emotional connections and welfare of partners) may be lower in the start and it is harder to develop with the passage of time (Rocco, Finholt, Hofer, & Herbsleb 2000).



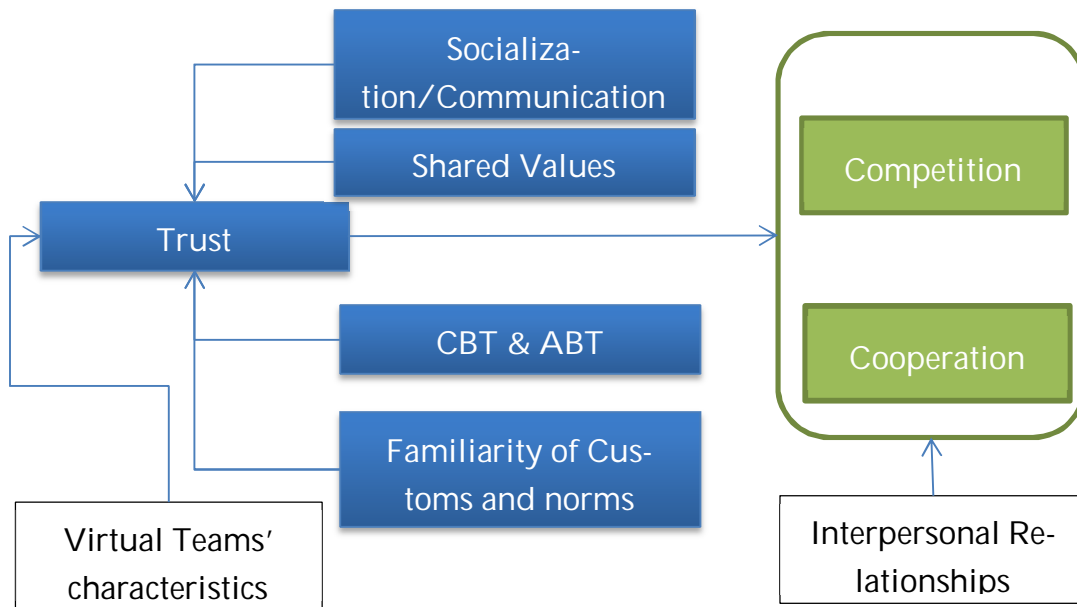
**Figure 9 Trust Building Process in Virtual Teams (Coates, Hinton & Montoya 2013)**

Based on previous research on the components of Trust and virtual teams, Beach, Coates, Hinton & Montoya (2013) presented the above five staged model and observed

that members of GVTs, Engage, Learn, Perform, Reflect/Re-engage, and Evaluate each others behavior and develop trust over a period of time. Authors explain that the first four stages develop over time, starting with cognitive-based trust (CBT) and merging it with affective-based trust (ABT) which gradually becomes dominant and last stage continuously and iteratively reinforces and helps to sustain the trust being developed. The relative importance of different factors related to trust is likely to differ and develop over a period of time. Trust is likely to differ depending on the development stage of the team. Jarvenpaa, Knoll, and Leidner (1998) studied globally dispersed teams and came up with the results that in the initial stages of projects, members have CBT whereas with the passage of time, towards the end of the project factors related to ABT were of more importance.

To a limited extent, previous research also focuses on predictors of trust. As mentioned earlier, the level of communication (especially, informal and non-task related communication) and time related factors play a major role in order to develop trust among GVT members (Jarvenpaa and Leidner 1999). Apart from continuous and high level of communication, key factors that can influence the extent to which members of teams trust each other include familiarity of members with local customs and cultures and sense of shared identity with other GVT coworkers (Rocco, Finholt, Hofer, & Herbsleb, 2000).

Above discussion shows that trust plays a major role in terms of interpersonal relationships development which in turn also affect the performance of the teams. GVTs will be more willing to take risks and dependent on risk when the team structure is weak and uncertainty is high. All in all, trust can be understood to be playing a mediating role for the performance through interpersonal relationships. Trust in itself is dependent on the level of communication, familiarity, cultural factors and shared values among the members of GVT. Although there is no conclusive evidence, however some studies suggest that trust does not need physical presence to develop. In virtual settings it may occur immediately but it would be fragile in nature in the face of contradicting evidence. Social information exchange at initial levels of team formation and task-related information sharing at later stages may help to develop and maintain trust among members of GVTs. Following diagram shows the antecedents of trust leading to the development and maintenance of interpersonal relationships.



**Figure 10 Antecedents of Trust and Interpersonal Relationships**

Above discussion shows that Trust develops over a period of time for example moving from CBT to ABT. However, passage of time is just one explanation in this context. During the passage of this time different events take place which would lead to towards this change. These events are the basis of process of unfolding change and therefore not only the duration of time but also the events taking place during this timeframe are important to discover which would lead to the development of interpersonal relationships.

### 2.3.3 Multiculturalism and Interpersonal Relationships

There are different views about team diversity and multiculturalism regarding the advantages and disadvantages it brings to the teams. This study has argued that trust is one of the major factors which are needed to develop interpersonal relationships among members of GVTs. This is difficult to happen because of the different time zones, dependence on communication means and this situation is further complicated by the different cultural settings these members belong to (Mockaitis, Rose and Zettinig 2009, 5). They are of the view that when team members belong to different cultures and are dispersed into different countries; cultural differences make it complicated to form common team culture or shared vision while even the shared information is also interpreted differently.

Apart from above mentioned difficulties caused by cultural diversity there are many advantages which GVTs can enjoy because of the same very reason. For example, Axtell, Fleck and Turner (2004, 214) are of the view that some of the motivations for forming GVTs are to include expertise from different locations and draw in representatives

from different functions, organizations, or countries so as to take advantage of the diverse knowledge. Cultural diversity can enhance group creativity and bring new ideas to the team however it affects convergence of team members in a negative way which may lead to negative relationships (Stahl, Maznevski, Voigt & Onsen 2010, 693). It is negated that diversity may not provide the benefits as much as perceived by the teams because diversity may cause fault lines when subgroups start to form (Fiol & O'Connor, 2005) based on different factors such as proximity and accessibility.

Diversity is advocated for the purpose of learning and creativity (Barczak, Lassk & Mulki, 2010, 332-345). Zakaria, Amelinckx & Wilemon (2004, 18) argue that the ability to learn is dependent on transmission of information through multiple dimensions such as visual cues, voice modulations, oral and written means. They deliberate that in cross-cultural settings, however, the use of the above communication techniques may not resonate with those who do not share the same culture cues and some of these dimensions may not be even present in virtualization context. GVTs, as mentioned earlier, are a diverse group, therefore it is important to look at their respective national and organizational cultures in order to find out team dynamics and interpersonal relationships.

### ***National Culture and GVTs' Dynamics***

Individuals are influenced by the local environment and therefore, they differ in their group behaviors and communication styles according to the culture they are part of (Gudykunst, 1997). Edward Hall (1976) in contextual theory argues that group behavior and communication styles are influenced by the context of the culture. He categorizes cultural contexts as 'high context' where many things are left unsaid, letting the culture explain and 'low-context' where the messages are delivered more directly with explicit messages.

In terms of GVTs, members belonging to high context would be less direct in their communication styles and would be more formal in the start until the relationship environment is unclear whereas; those from low-context cultures may be direct, less formal and perceived as impolite from high-context group members (Zakaria, Amelinckx & Wilemon 2004, 18).

Hofstede's four cultural dimensions framework (1980) provides basis to understand the interpersonal relationship development among team members. Global virtual team members whose cultures value collectivism would like working in a team setting with close proximity and easier face-to-face contact while emphasizing relationship building but would feel isolated due to the virtuality of the team. On the contrary, members from individualistic cultures are more concerned about the task performance as compared to relationship building and therefore may be perceived as cold and not true team players by collectivist members (Stankosky, Calabrese & Lu 2008, 227). Zakaria, Amelinckx & Wilemon (2004, 19) also argue that members of the team who belong to a culture that

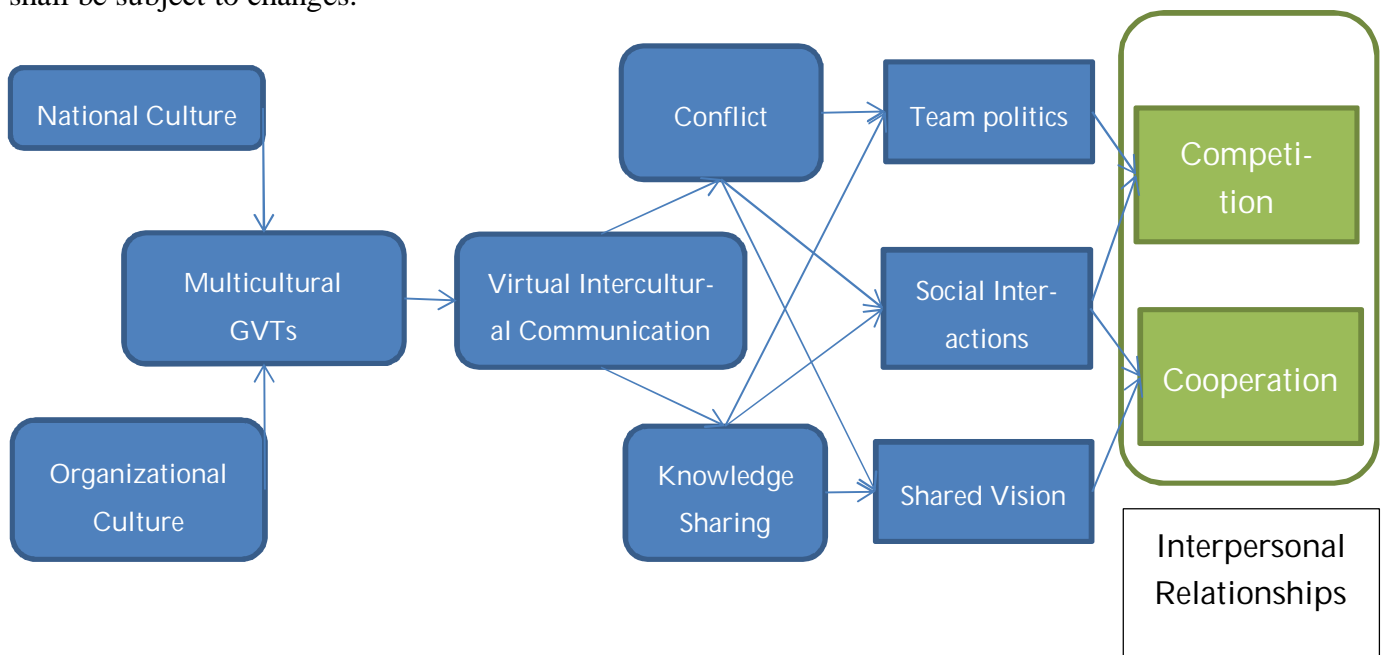
ranks low on uncertainty avoidance would be more anxious working in new and unfamiliar environment which is technologically challenged as well due to virtuality. However, they also point out that frequent reciprocal communication and information sharing may lessen this uncertainty over a period of time.

### ***Organizational Culture and GVTs' Dynamics***

Apart from national cultures, organizational culture also have a strong effect on the behavior of members of GVTs because organizational culture is influenced by national culture and therefore organizational systems and communication styles are closely linked with it. As Schein (1999, 48) views the corporate culture as,

“It is the way we do things around here. In essence, corporate culture is the learned, shared, and tacit assumptions such as values, beliefs, and assumptions.”

Above definition then implies that organizational impact would be varied in the way technology and communication systems are used in the context of GVTs and therefore will have an impact on the development of interpersonal relationships. Zakaria, Amelinckx & Wilemon (2004, 20) argue that during the team formation period, team members shall be made aware of the cultural differences and the opportunities or problems which may arise of differences which would lead to the development of intra-team relationships based on collaboratively negotiated communication protocols. They further propose that parties responsible for organizational culture and GVTs management including team leader(s) and members should work on developing common communication protocols which would lead to lessen the possibility of conflict and these protocols shall be subject to changes.



**Figure 11 Multicultural GVTs and Interpersonal Relationships**



Above discussion shows that level and means of communications in multicultural GVTs are of utmost importance in terms of relationship building. It is discussed that lower level or poor communication may lead to conflict in GVTs and situation becomes more complex due to cultural context in which each member of GVT is operating. This would lead to negative competition in teams as depicted in figure 11. However, if organizational systems are developed in such a way that they enhance social interactions through procedures then it can have positive influence on the development of common culture and shared vision which would lead to cooperation or positive competition among the members of GVTs.

Figure 11, summarizes the concept of development of interpersonal relationships in the context of multicultural GVTs while showing the antecedents of such teams and also their dependencies on communication and technological systems. In turn these systems can give rise to either conflict or knowledge sharing platforms which would affect antecedents of interpersonal relationships. This would affect either one or all of the components on interpersonal relationships. This effect could be either positive or negative.

The process of change and relationship development is also dependent on the events taking place in cultural sphere. Events could be as simple as miscommunication due to language or as complex as misunderstanding of the cultural norms of people from different cultures. It is, therefore, important to focus on the events which have influence on relationship changes. It is important to note that some events take place within the teams while others are reactions of national or organizational cultural changes. Since study focuses on relationship dynamics and their development, therefore it will take into account the changes and events occurring at any level which would have influence on the development of these relationships.

#### ***2.3.4 Team Tasks, Projects' Lifespan and Interpersonal Relationships***

Last sub-section of literature discusses the influence of nature of task and its duration on the development of interpersonal relationships among the members of GVTs. It is propagated that the nature and complexity of task is one of the determining factors how closely members in a team need to work (Axtell, Fleck & Turner 2004, 214). It brings in the concept of level of interdependence of members on each other. It is argued that the level of interdependence moderates relationships e.g., conflict in GVTs would be more harmful where members are highly interdependent on each other to achieve the end goal (Hinds & Bailey 2000). Pooled interdependence is considered the one where there is least interaction required among GVT members and where tasks are performed separately by all the team members and their combination results into the final outcome. Sequential interdependence is one way flow of work from one team member to the other

until the end goal is reached. In reciprocal type of interdependence, reciprocal, work flows back and forth between different team members however one member deals with the work at a time. Finally, intensive interdependence is the arrangement where team members are in constant and simultaneous communication and collaboration for the purpose of achieving the end task (Mathieu, Tesluk, Zaccaro & Marks 1997, 197-224.).

Apart from interdependence perspective, tasks also vary in terms of their media richness requirements which may add or reduce the complexity of the task itself. If a task is highly interdependent and requires intensive exchange of information and coordinated effort from all the members of GVT then richer, synchronous technologies are considered to be the superior choice whereas independent tasks can be performed easily through asynchronous and less rich technologies such as email (Riopelle et al., 2003). Task complexity and high level of interdependence would give rise to problems of coordination and may lead to conflict. In this context Hinds and Bailey (2000) argue that due to such potential problems of trying to work interdependently via technology, team design should be structured for independent rather than interdependent work otherwise it may lead to lower performance and negative relationships.

Team tenure or lifespan of a virtual team is another factor which may influence the development of relationships among members of GVTs. In previous research tenure has long been considered to have an important influence on group development (McCain, O'Reilly & Pfeffer, 1983). In general, the longer a team is together, the smoother and more automatic its processes become. Usually this is helpful to groups, for example for reducing conflict (Jehn & Mannix, 2001). Stahl, Maznevski, Voigt & Onsen (2010, 702) argue that teams which are staying together for a longer period of time are going to experience higher levels of conflicts and less effective communication compared with teams with less tenure. They attribute these affects to the cultural diversity of GVTs. They are of the view that teams with longer tenure are dealing with complex tasks and it offers the opportunity to connect with each other at a deeper level rather than at surface level (p. 704). Jehn and Mannix (2001, 241) reported on the nature of conflict in long term teams and found out that in such teams consensus on work values leads to effective patterns of task conflict and lower levels of relationship conflict over time.

Above discussion shows that complexity of task being performed and level of interdependence of members of GVTs moderates the kind of relationships they are going to have. Also, the length of time members spend together on a project has an effect on their relationships. The intensity of communication may go down and task conflicts may arise in teams with long term projects which are attributed to the task complexity again.

### 2.3.5 *Section Summary*

Sections 2.3.1 through 2.3.4 discuss different characteristics of virtual teams. These sections look deeper into characteristics including Trust, distance, multiculturalism and nature of the work being performed by the members of GVTs. Each section after looking at either the antecedents of each characteristics or their influence on variables which constitute interpersonal relationship draws individual inferences among virtuality characteristics and its influence on interpersonal relationships.

Three different characteristics have been identified which contribute to distance including temporal distance, physical distance and team configuration which in turn relate to interpersonal relationships. It has been observed through previous studies that at a general level, distance (both spatial and temporal) has a negative impact on interpersonal relationships and tends to weaken interpersonal ties. In case of team configurations, balanced team configuration has been found to have a positive relationship towards cooperation and group decision making and therefore affects interpersonal relationships positively. From the perspective of media richness it has been observed that when teams are operating in virtual settings, the higher the level of media richness, the stronger the interpersonal ties are going to be.

Second characteristic discussed in relation to the development of interpersonal relationships is trust. Trust plays a major role in terms of interpersonal relationships development. GVTs will be more willing to take risks and dependent on risk when the team structure is weak and uncertainty is high. Weaker team structure means that there are fewer guidelines available and hence the members of GVTs are going to go through self-evolution process in order to establish own working norms. Trust in itself is driven from level of communication, familiarity with members, cultural factors and shared values among the members of GVT. In virtual settings trust may occur immediately but it would be fragile in nature in the face of contradicting evidence. Social information exchange at initial levels of team formation and task-related information sharing at later stages may help to develop and maintain trust among members of GVTs. Following diagram shows the antecedents of trust leading to the development and maintenance of interpersonal relationships.

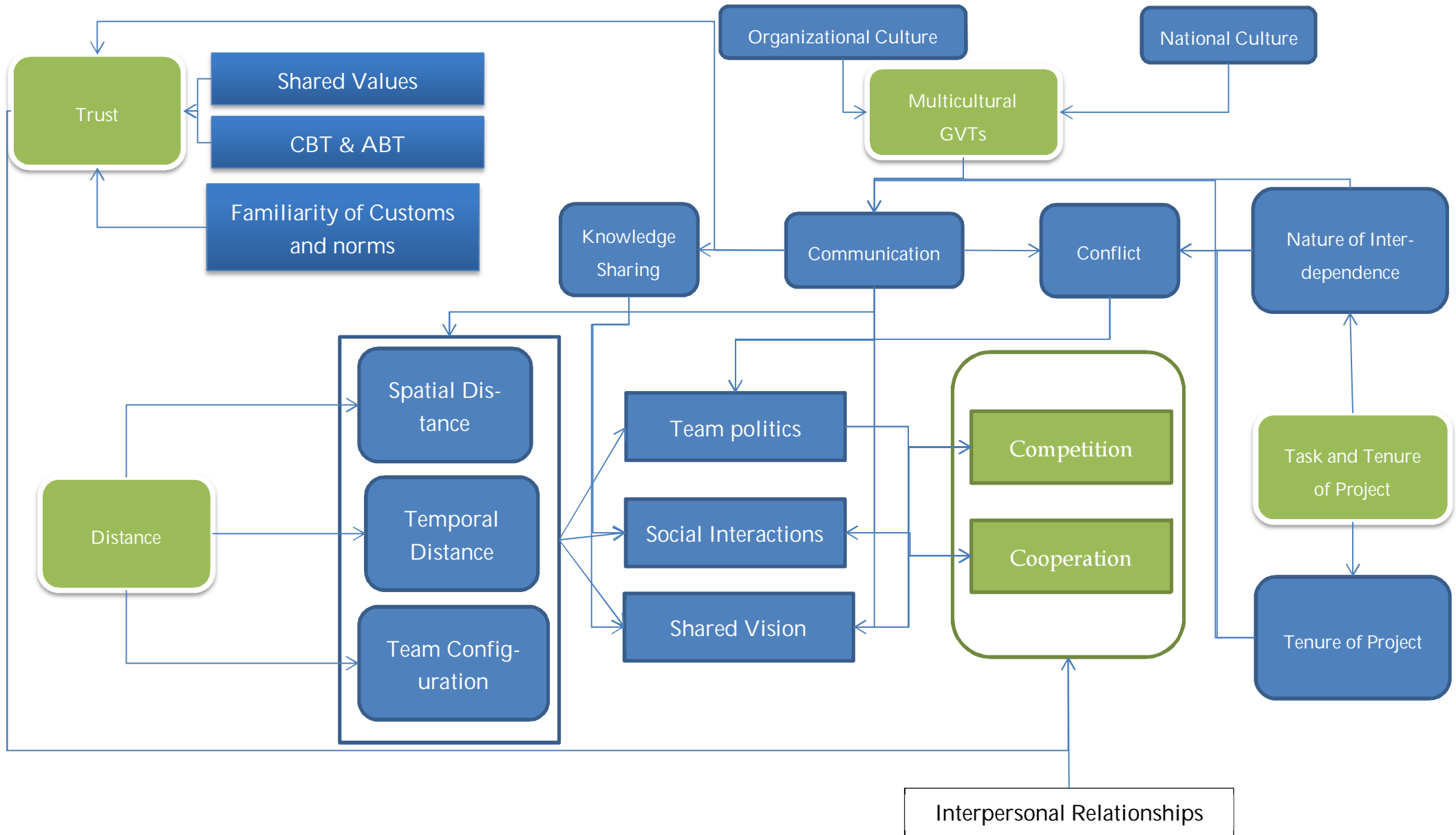
Third characteristic related to the composition of GVTs discussed above is the multiculturalism and team diversity. It has been noted that level and means of communications in multicultural GVTs are of utmost importance in terms of relationship building. Literature discusses that lower level or poor communication may lead to conflict in GVTs and situation becomes more complex due to local cultural context in which each member of GVT is operating. This could lead to negative competition in teams. However, if such organizational systems could be developed which enhance social interactions through procedures then it can have positive influence on the development of common

culture and shared vision. The end result in this could be cooperation or positive competition among the members of GVTs. It is evident from literature that development of interpersonal relationships among such GVTs is highly reliant on communications and therefore role of media richness is also important. Depending on factors such as media richness and frequency of communications, these systems can give rise to either conflict or knowledge sharing platforms which would affect antecedents of interpersonal relationships.

To address second research question, literature related to nature of task and tenure of GVT (lifespan of project) has been discussed. It has been identified that complexity of task being performed and level of interdependence of members of GVTs moderates the kind of relationships they are going to have. Also, the length of time members spend together on a project has an effect on their relationships. The intensity of communication may go down and task conflicts may arise in teams with long term projects which are attributed to the task complexity again. However, it was difficult to identify studies which would have discussed the idea of same team working on different projects either simultaneously or in different time brackets while most of the members stay the same, some new members are added to the team or some old ones are let go. This is one of the objectives of this study to find out if the above mentioned situation has any effect on the development of interpersonal relationships and if so, can it be explained in terms of existing characteristics in the same way as previously or not.

The process of relationship development and development is influenced by factors such as trust, multiculturalism, distance and duration of projects. However, this influence is caused by different events during the whole process and therefore it is important to focus on those events throughout the life of the projects which are for example influencing trust, cultural harmony or any other virtuality related characteristics resulting in the development of personal relationships.

Also, as mentioned earlier in the introduction, characteristics of virtuality have been discussed individually in literature in terms of their influence on relationships among members of GVTs and performance but limited number of studies are available deliberating on their combined effect. Following section presents the summary of complete literature in figurative form (Figure 12) where these variables have been connected together.



**Figure 12 Literature Summary**

## 2.4 Literature Summary

Chapter two has discussed GVTs in detail while focusing on interpersonal relationships, composition of teams, dimensions of virtuality and characteristics of virtuality influencing the development of interpersonal relationships.

Interpersonal relationships can be found at two levels where members of GVTs are found to be cooperating and competing with each other to reach the end objective. This cooptation results from different variables such as team politics, shared vision and social interactions of the members. It has been identified that above mentioned variables can have both positive and negative influence on interpersonal relationships depending on different characteristics of GVTs such as Trust, Distance (physical & spatial), multiculturalism as well as the complexity and nature of the tasks they have to perform.

Virtual teams are of different types and depending on dimensions of virtuality (synchronicity, informational value and extent of use of virtual tools of communication) they can be categorized as highly virtual (GVTs) to somewhat virtual (co-located) teams. These dimensions also have influence on the structure of GVTs in terms of hierarchy and leadership roles.

Section 2.3.5 discusses different characteristics of virtual teams and their role in the development of interpersonal relationships. Figure 12, provides a collective view of how all these variables interact with dimensions of interpersonal relationships. It also depicts the influence of these characteristics on each other.

Figure 12 shows that all the characteristics including trust, multiculturalism, distance and task are influenced by the type and frequency of communication taking place among the members of the team. Also, although nature and complexity of tasks is directly related to the development of interpersonal relationships but it also has a reciprocal relationship with conflict which in turn is a result of multiculturalism.

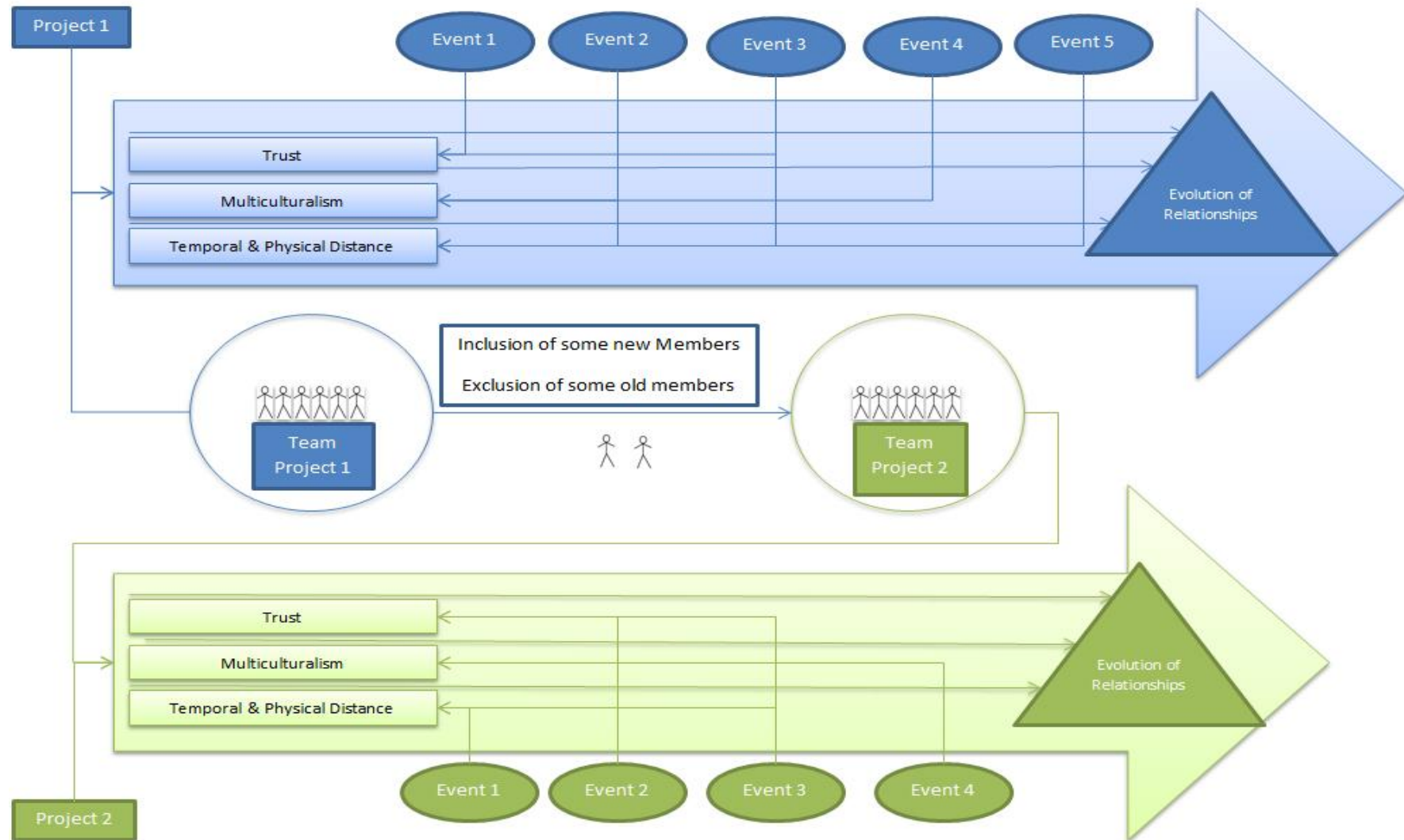
At this point in this study, purpose of using this deductive approach is to look at interaction and interplay of different characteristics of virtuality in terms of relationship development. As discussed under section 2.3.5, such deduction is typical in quantitative studies for the purpose of hypothesis development but this approach has been applied here to form a clear focus towards next sections of this study.

## 2.5 Conceptual Research Model

Literature discussed above has looked into different virtuality characteristics which based on certain events happening over the life of projects lead towards the development of relationships over life span of the project. Figure 13, depicts the conceptual model which serves as basis for conducting this research. Concept of this model is drawn from the literature of interpersonal relationships and virtual nature of global teams. The concept revolves around the thinking that relationships develop over a period of time and are affected by the events happening during the lifespan of a project.

Figure 12 has discussed different factors which influence the development of relationships among members of GVTs based on different perspectives. It takes into consideration factors acting at different levels such as individual, group and organization level while also focusing on the external stimuli. In order to arrive at the model presented in figure 13, it shall be noted that the focus is on the dyadic development of relationships and then its influence on the overall relationships among the members of the GVT. Since these relationships are affected by different factors operating at different levels in an organization therefore in Figure 12, distinction has not been made among different factors operating at different levels. In fact, focus has been kept on the relationships and therefore focus has been on the factors influencing these relationships instead of the level at which they operate.

Model presented in Figure 13 shows a single team working on two different projects. Based on the nature of project, different members are included or excluded from the team; however majority of the members remain the same. There is no distinction whether the projects are being conducted simultaneously or otherwise. During the life span of these projects different events may take place which will influence the nature of trust, harmony and diversity due to multiculturalism or communications due to distance. It is important to note at this stage that a single event can be considered to have an influence on multiple dimensions.



**Figure 13** Conceptual Research Model



It is important to consider at this point in the study that the virtuality factor influencing the relationship development may come into play at any level (individual, group or organizational level) in the organization. For example, cause of miscommunication could be the organizational level policy change in terms of formal communication tools or it could be just because of the cultural misunderstanding. Both of these causes may influence the level of trust different members have among themselves and therefore have a negative inclination towards relationships among them.

Changes occurring in the nature of relationship among members of GVTs due to these events are focus of this research so as to examine the phenomena of development of relationships. These events can be referred to as big events as organizational changes occurring to direct teams, using diversity while looking for a shared meaning or as small as miscommunication among team members.

In the following empirical section, in order to study the influence of these events different organizational resources and materials have been taken into consideration. Apart from interviews different materials such as minutes of meetings, emails and virtual conferences taking place among the members of the teams. Further details on data collection and utilization have been discussed in the following methodology section.

### 3 METHODOLOGY

This chapter focuses on the methods used to conduct this research. It explains the choice of methodology in relation to the current study. Later parts of the chapter focus on the methods used for data collection and analysis of the data to arrive at the results. The methodology used in any research study is heavily dependent on the type of information required to investigate the research problem(s). These methods explain the system used by the researcher to collect empirical data in order to perform the analysis and to arrive at a certain conclusion. Since, the methodology adopted responds to the need for information caused by the research questions, therefore, each method is related to, and justified by the nature of information needed.

#### 3.1 Ontological and Epistemological setting

Background of interpersonal relations forms the basis and provides the ontological setting of this study, determining the connections with scientific research methodology. Multiple theoretical explanations and personal nature of the concept of interpersonal relationships requires a thorough framework compared and judged with the subjective perceptions of individuals who are part of virtual teams performing on multiple projects. There is a need to interpret these individual perceptions to which quantitative and statistical methods provide some limitations and therefore the study follows a qualitative approach.

Epistemological setting of this study is based on critical realist approach. This perspective considers reality to be objective on its own but it is the individual perceptions which form the reality for those observing it. Bhaskar (2013) points out that critical realism transcends the classic dualisms in the social sciences, such as positivism and interpretivism. Bhaskar (Johnson and Duberley, 2000: 150–156) developed the stance of critical realism and proposes three levels of reality:

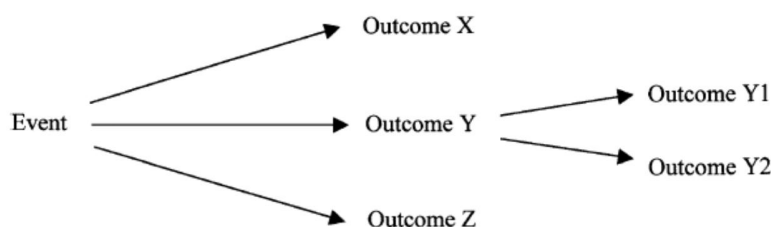
*“Experiences: This is what we see and experience of the world. This can be subjective and limited. We may ‘see’ things from an odd perspective or may not see things at all. This level is nominalist. Our experiences are not mirrors of reality.*

*Events: Events are the things that happen in the world that we perceive through our experiences of them. They are the things that happen and things said and they are the second level of reality. This level represents a metaphysical realism, which is the view that the external world has a physical reality.*

*Mechanisms: However, events do not occur out of nothing; they must have a cause. Mechanisms are the causes of events and are the third, and deepest, level of reality. The critical realists argue that there are many mechanisms existing at this level. They could be, for instance, the assumptions that constitute someone's personality, a clash of economic interests or the constraints of an organisational culture. Triggers switch on such mechanisms in complex combinations and they bring about the events that we experience. A crucial feature of mechanisms is that they cannot be directly experienced. They can only be logically inferred from events. This might be seen to make mechanisms nominalist but the critical realists argue that because they are the generative mechanisms that cause real events then they must be real too."*

The above description of critical realism is in line with the research purpose where the study is trying to understand the process of relationship development on the basis of different events which take place during the life of the projects. These events can be taken as mechanism in this particular study as they have an influence the characteristics of virtuality which in turn shapes the relationships among team members.

This approach of studying emergent events and their influence on personal relationships is well explained by the process research. Aldrich (2001) is of the view that process research is either outcome driven or event driven. Outcome-driven explanations are built backward, from an awareness of observed outcomes to prior causally significant events. However, in this study the focus is the emergent nature of relationships where the outcomes are not known and therefore this study follows an event-driven process approach towards research. Event-driven explanations are built forward, from observed or recorded events to outcomes. Researchers pick certain kinds of events and then record their occurrences over time. No simple rules exist for such designs, and some events can figure in more than one narrative. The idea is to link different events to explain certain phenomena (in this case the development of relationships). Following figure is a graphical representation of the event-driven process research.



From Aldrich (2001)

**Figure 14      Event -Driven Explanations**

## 3.2 Methods

This section discusses the methodological setting and the methods used for the purpose of data collection. In summary, single case study has been used for the purpose of this research. In order to gather data semi-structured interviews have been conducted with the team. Also, official documents such as emails and minutes of the meetings have been used to identify the specific events which may have an influence on the development of personal relationships among members of the team.

### 3.2.1 Case Study

In order to gather detailed insights extensive and elaborate data is needed for which case study method has been used extensively. This kind of study provides the opportunity to the researcher to look at individuals, groups and organizations intensively, focusing on several factors. Case study is one way of conducting a qualitative research and can be used both for making comparisons between different firms or conduct a deeper level of analysis with one case. For the purpose of this study, single case study has been used where members of the same team (with addition of new members or exclusion of old members) have been studied while working on different projects in order to understand their relationship development (Kreuger & Neuman 2006, 34).

Goal of this study was to learn more about the relationship development among members of GVT. Since the purpose was to analyze the group behaviors on a deeper level, case study was an obvious choice. By doing, it is possible to gather multiple views of the members on the same issue under investigation and makes it possible to compare the results with recent theoretical findings. To achieve the most useful knowledge research was conducted on a company in Finland so as to relate with the current environment where the researcher is present.

Saunders, Lewis & Thornhill (2007) argue that ‘the case study strategy also has considerable ability to generate answers to the question ‘why?’ as well as the ‘what?’ and ‘how?’ questions, although ‘what?’ and ‘how?’ questions tend to be more the concern of the survey strategy. For this reason case study strategy is most often used in explanatory and exploratory research (Ibid, P.139). The case study style research represents the ability to look at the object as a total impression and trying to find all possible ins and outs of the matter needed to create an overall picture.

### 3.2.2 *Case Company*

For the purpose of empirical data collection one firm named Enterprise Engine, Finland has been selected. Enterprise Engine operates at general level where it helps its clients to acquire new customers through data mining and marketing tools. However the core focus of this business is on software based solutions. As per company website its core services include Web Application Development, Software Quality Assurance, Win/Linux/Unix System Administration, Search Engine Optimization and Business Process Outsourcing.

Multiple factors have been taken into consideration for the selection of this firm. First and foremost is the fact that the firm operates through virtual teams and its members are located in different geographical locations across different countries. Considering that this firm is relatively young and small in size provides the opportunity to study the evolution of working processes to know how virtual teams are formed and develop over a period of time. Also it provides the opportunity to study the development of relationships in contrast to larger firms where due to formalization, formation and working procedures are pre-defined to a larger extent.

### 3.2.3 *Data Collection methods*

Qualitative studies predominantly accentuate an inductive approach to formulate the relationship between theory and research (Bryman 2012, p. 36). In case of this study while studying the GVTs in project environment for relationship development, from the result of that observation, it can be acquired how relationships develop among the members of the same team while they are working on different projects. This process makes it possible to explore the development prospects and possible ways to enhance the relationship development in the positive sense in these teams.

In order to get the full picture of relationship development among the members of GVT, It is important to gather data in such a way that it allows the subjects to offer their own perspectives fully. Experiences and therefore interpretations of one member in the team may completely be different that the other members of the same team.

Development of relationships is a topic which is highly marked by the individual perceptions and therefore it is important to recognize subjects shall be able to express themselves and their feelings individually so as to clarify the social and cultural contexts within which they operate (Dalcher, 2003). It is in this context that the qualitative method used to collect data is semi-structured interviews where an interview guideline is used with open-ended

questions. It helps to secure varied responses and guide the discussion in a particular direction while still leaving the room for individual perspectives. The individual perspective towards relationships necessitates the flow of the conversation to be bidirectional, allowing the interviewees to expand their answers and engage them in a two-way communication. This approach provides the room and flexibility needed to probe the subjects into different contexts.

Major advantages emerging from interview approach include the positive rapport generated by the interviewer and the interviewee with a high level of validity. It is possible because the interviewee is provided with the needed room to talk about the topic in detail and depth with the opportunity to discuss and clarify complex questions while ensuring the avoidance of the contamination of the interviewer's preconceptions. Interviews focus directly on the study's research questions and provide insights and perceived causal connections.

Semi structured interviews provide many advantages over questionnaires. It is possible for the interviewer to learn from the first interview and improve on the skills for future in order to gain rich data from the following interviewees (Remenyi, 2012). Similarly, it provides the possibility to rephrase the interview questions for further investigation which may have appear vague or unclear to the initial interviewee(s). Also since these interview questions act as a guideline instead of a fixed pattern of questionnaires therefore it provides the flexibility to adding probes that can retrieve more in-depth information.

On the other hand, there are some challenges related to this technique of which the interviewer should be aware of before starting the process of data collection. First and foremost, the quality of collected data is dependent on the skills of the interviewer. It is important for the interviewer not to give unconscious signals to the interviewee that may lead them to answer in particular way instead of sharing their own thoughts and perceptions. This is time consuming and relatively expensive method than questionnaires while at the same time can present the challenge of replication. Yin (2013) points out that there can be weaknesses in the responses as well due to lapses of memory or reflexivity when a response is provided by the respondent because they would like to answer according to what interviewer wants to hear.

It is evident from the above explanation that the data collected from the interviews is based on the personal views of the individual about certain events and it is not possible to validate their explanations as to what constitutes facts or subjectivity. However, this phenomena does not threaten the importance of this research as this situation can confirm disconnect among the members of GVTs understanding of personal relationship development and the content of personal relationship development theories. However, it is for this reason that the interview data is verified with the available documentation such as minutes of

meetings and records of virtual conferences. It is also important to note that team members are providing recollections about one of the past projects whereas at the same time an existing project is being observed at real time for two weeks (time period for the purpose of conducting the interviews at the same time) where the team is facing interpersonal issues. Therefore the argument that the data collected from interviews may contain ex-post event rationalizations can be reduced to a minimum by comparing the explanations of similar events in two different cases.

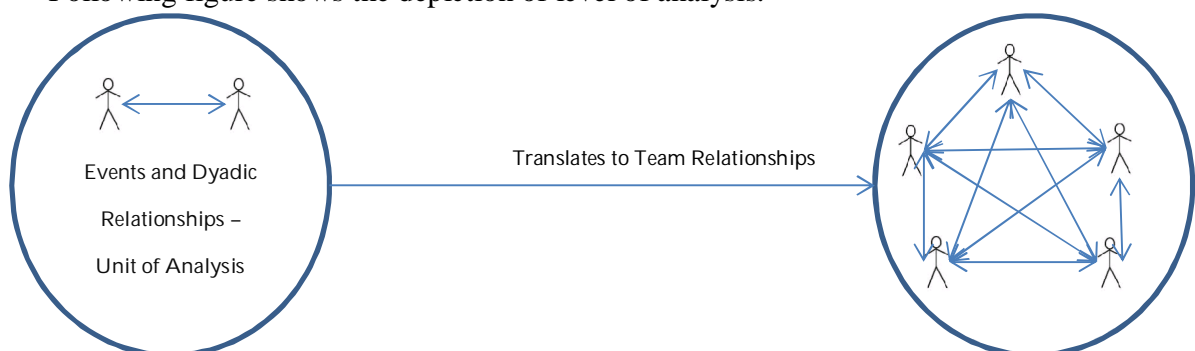
### 3.2.4 Data Analysis Methods

Before embarking on to the discussion of data analysis methods it is plausible to describe the unit and level of analysis. It is important to clarify these two concepts in terms of this thesis so to relate to the analysis methods.

#### *Unit & level of Analysis*

The purpose of this thesis is to study and formulate an understanding of the development of relationships among members of GVTs working on different projects. Relationships, therefore, are considered to be the unit of analysis. These relationships are studied in the light of different events happening within the team and therefore influencing the development of these relationships either positively or otherwise.

It is vital to clarify that these relationships are being studied in a dyadic setting where the interaction of two members and events happening between them translate into the relationships. These members also interact with other members in the team and therefore nature of their relationships has an influence on the relationships among all the team members. Following figure shows the depiction of level of analysis.



**Figure 15 Unit of Analysis - Dyadic Relationship**

Above figure shows that the analysis would be performed on the events and relationship development between two members of the team can be studied. As a result development of relationships among all the team members can be studied.

### ***Thematic Analysis***

Thematic analysis is a widely used tool for conducting qualitative research. This methodology is helpful in analysing the data collected through interviews (Bogdan and Biklen 1997). Braun and Clarke (2006, 79) are of the view that thematic analysis is particularly suited for identifying, analysing, and reporting patterns or themes within data. This analysis method helps in organizing and describing data sets in such a way that interpretation of different aspects of the research topic becomes possible. Themes identified through this method capture important features from the data set and links them to the research questions while capturing different patterns present in that data.

This method is suited for the analysis of this study because of its ability to draw connections between theory and collected raw data. These connections are helpful in terms of making inferences from data by comparing it to existing literature (Aronson, 1994). After defining the themes based on literature and empirical data thematic statements are formulated so as to develop a narrative. It is important to maintain transparency in methods of analysis so as to increase the strength of findings and at the same time allowing the reader to understand that how researchers came to the conclusions they did. Thematic analysis also fulfils this requirement by clearly defining the steps (understanding of data, coding, searching for themes, defining themes, thematic statement and report generation) in order to use this tool.

### ***Interview Analysis***

After conducting the interviews, each interview was transcript and converted into 3-4 pages of congregating summaries. Summaries were created in the light of operationalization model presented in table 2 covering major themes, while identifying most relevant data provided by the respondents. This process provided the initial familiarization with the collected which as defined as first step towards thematic analysis (Braun and Clarke 2006). This kind of formatting for transcription allows for a faster analysis and discards the data including background noises and incomplete thoughts. As a clear path to an answer with proper justifications is the main parameter for transcription therefore this method of transcription is plausible (Braun and Clarke 2006).

This kind of transcription also provided the benefit of completion of initial coding as described by Bogdan and Biklen (1997) in order to move to the next step of defining and de-



veloping the themes. With this initial coding and definition of themes, the initial meanings of themes started to emerge and then data sets were allocated to form the thematic sentences. This step clarified the process for next steps of analysis and report generation in order to arrive at the results.

**Table 3            Operationalisation Model**

Research Problem	Sub Problems	Themes	Concepts	Concepts in Literature	Interview Question(s)
How do relationships between the same members of GVT develop over a variety of projects?	How do characteristics of virtuality influence the relationships?	characteristics of virtuality & interpersonal relationships	Trust	2.3.2, 2.3.5	13,14,15
			Time difference	2.3.1, 2.3.5	10,11
			Proximity	2.3.1, 2.3.5	10
			Cultural Issues	2.3.3, 2.3.5	11,13
			Language Issues	2.3.3, 2.3.5	10, 11
		Composition of team	Structure of teams	2.2.1, 2.2.3, 2.2.4	6,10, 13
			Constructs of virtual teams	2.2.1, 2.2.2, 2.2.4	10,11,12
			Development of Virtual Teams	2.3.4	7, 13, 15, 16
	How do project duration influence project members' relationships?	Short Tenure of Project and Influence on relationships	Task Related issues and relationships	2.3.4, 2.3.5	3,4,5, 8,9,13, 14
			Cognitive based trust and relationships	2.3.2, 2.3.4, 2.3.5	
		long Tenure of Project and Influence on relationships	Task & Affective-based trust and relationships	2.3.2, 2.3.4, 2.3.5	3,4,5, 8,9,13, 14

***Company Documents and Records Analysis***

The data was collected related to two different projects in order to complete this research. One short term project which has recently been completed and the other project is still going on. In this context it is possible to gather data which is not rationalized for the second project and easier to observe as the events unfold. However, in former case it is possible that the responses from the interviewees are already rationalized and therefore to validate the interviewees' perspective and to have a deeper understanding of the events different company documents were utilized. These documents were helpful in establishing the cross checks for what the interviewees said and how does the documents reflect these issues. Further details about the utilization of these company records and documents are described in section 4.2.

## 4 DATA COLLECTION AND EMPIRICAL RESEARCH

Data collection was done two different ways. First set of data was collected through interviews with the team members working in the case company. Second set of data was collected through company documents such as minutes of meetings, recordings of conferences and daily reports filed by the employees.

### 4.1 Semi-Structured Interviews

Interviews were the main source of data collection for this study. In order to collect the data semi-structured interviews were conducted between March 21<sup>st</sup> and March 29<sup>th</sup>.

Interviews consisted of open ended questions which were followed by series of follow-up questions in order to draw further details and clarifications. The questions were developed, discussed and modified with the researchers providing supervision for this study so as to ensure the minimum possibility of providing leads and directions to the interviewees in a particular direction. Initially, some questions were included to get the information about particular events which may have affected the relationships among the members, however later on these were excluded. In total four questions were excluded from the initial guide.

Interview questions were drawn from three main themes and nine different concepts described in table 3. Questions (appendix 1) can be divided into three major categories excluding the introductions and backgrounds of the interviewees. These categories include questions related to virtuality environment, relationships and influence of tenure of the project.

In total six interviews were held in order to collect data. First team which has worked on a past short term project consisted of five members. Second team also consisted of five members working on an ongoing long term project. However, out of these five members, three members were from the previous team and two new members were added to the team. Interviews were conducted with the three members who were common across two teams, two new members who have joined the new team and one with the member who was part of the previous project. It was not possible to conduct interview with both the members who were not part of the new project because one of those members had already left the organization.

After completion of the interviews, recordings were listened to several times in order to form compressed transcriptions that presented the views of different individual interview-

ees. Initial transcripts were organized in a question answer format before converting to compressed summaries. These summaries however included the quotes from individuals related to different events and how they unfold over a period of time.

Before starting the interview, there was a brief introduction to clarify the motives and purpose of these interviews. Also it was at this stage when the interviewees were asked for the permission to record the interviews and use it for the purpose of research.

On the request of the company interview questions were sent beforehand to all the interviewees. Two interviews were held face to face and the audio conversation was recorded. Rest of the four interviews were held electronically and recorded. Since most of the team members working on the previous projects are also part of the current project therefore the names of the interviewees and projects were kept anonymous and given different names.

#### ***4.1.1 Selection of Interviewees***

Purpose of this research called for the need that the interviewees shall be dispersed geographically in different countries and relied on different technological means in order to fulfil the job requirements. Other aspect of the study was related to multicultural side of the teams, therefore, in order to fulfill the research requirements it was necessary to have a diverse team belonging to different cultural settings.

It is for these reasons that the study required a purposive sampling so as to establish a better understanding for the questions under investigation. Also, since the idea of research was to study same members of a GVT with the inclusion or exclusion of few, therefore this kind of sampling was needed. Any other kind of sampling process such as Probability sampling e.g. is not possible in this case as it requires a degree of randomness and therefore it may compromise the goals of this research.

#### ***4.1.2 Introduction to Interview Respondents***

Table 4 shows the summary of the respondents and their particulars. Due to the ongoing nature of one of the projects, respondents have been given fake names. Other details in table 4 include the location of the respondent, date on which the interview was conducted, duration of the work experience at the firm, total experience of working in virtual teams, and their role in the project. These summary introductions have been provided for the pur-

pose of developing the understanding for the reader so as to know the individuals being interviewed.

**Table 4 Interview Respondents Overview**

Subject	Date	Location	Currt. Exp.	Yrs. Exp.	Current Role	Both Projects
Javeria	23.03.15	Lahore, Pakistan	6 months	4 Yrs	Content Writer	No
Quim	24.03.15	Rajshahi, Bangladesh	2 years	8 Yrs	Developer and analyst	yes
Jonathan	25.03.15	Mexico, Mexico	2 year	4 years	Programmer	yes
Kiran	26.03.15	Jonkoping, Sweden	1 Year	5yrs	Editor	No
Asim	30.3.15	Turku, Finland	3 years	7 years	Owner, marketing manager	Yes
Mangesh	27.3.15	Nepal	6 months	2 years	developer for first project	No

*Javeria* is a young professional with four years of professional experience as a content writer. She is working for the case company from Pakistan. Previously she has worked both with in normal teams and virtual teams. However, this is her first assignment as a professional working for a GVT. Her approach and motivation for working in GVT stems from the perception of flexibility and opportunity to interact with globally diverse professionals. She describes it as “*Working in GVT is a totally new and challenging experience for me. I am still in the learning phase of dynamics of the team. However, at the same time it provides me the flexibility to achieve work-life balance.*”

*Quim* belongs to Bangladesh and is working for the company from there. He has been one of the old members of the company and has worked for it for couple of years now. He has a professional experience of IT industry of well over eight years. His role is related to software development and analysis. He was of the view “*I have worked for large IT firms for a long period of time and although it provided somewhat job security but there used to be too much formalization. Here, I have been with the company when it was still young. We have faced a lot of uncertainties to keep the business afloat but at the same time sense of achievement has been a big motivator for me.*”

*Jonathan* is a resident of Mexico City, Mexico who had his higher education from Finland and that is where he met the owner. He has a total of four years of working experience in IT industry as a programmer. His expertise involves working in different computer languages. He has been working with the firm for two years now and is permanent member of the team. He was of the view that in the start it was just an informal work while he was in Finland and there was no thought of virtual teams. However with the passage of time things evolved and they started working in this kind of setting because of the cost saving advantages only.

*Kiran* is of Pakistani origin living in Jonkoping, Sweden since 2008 and a graduate of Business and economics. He became part of the team a year ago and has been taking care of the marketing side of the company. His view is that the nature of virtual team provides him with the much needed flexibility for running his own business as well. For him relationships among team members are something which evolve over time. However he is of the view “...*professional relationships have to revolve around the tasks which people are supposed to perform and if members are doing that there is no reason why the overall environment shall go bad.*”

*Asim* is the owner manager of the company. He started the business as a one man company and grew it over a period of time. He is acting as BITM (Business & IT Manager). According to him “*my role is crucial in the sense that I act as an interface between the technical and business development members of the team*” When asked about the working in GVTs his perspective was “*I initiated this format of business with one thing in mind – cost saving, however over the period of time I have realized the importance of factors such as communications, trust issues and team management to be crucial for business while working in GVT*”

*Mangesh* was part of the first project and is no more a part of the current team but still is working for the organization as a part time worker. He worked as a developer for the first project. He was of the view that he learned a lot from the first project but then also felt the need to develop his own skills and therefore after the first project he limited his role and started taking professional courses so as to enhance his skill set.

## **4.2 Data collection through company records**

Apart from the interviews, data was collected through minutes of meetings, work sheets and records of conversations during conferences. Due to company policy, recordings of

conference could not be made public. However, appendix 2 and appendix 3 show sample worksheet and minutes of meeting.

Minutes of meetings were utilized in order to understand the task related assignments and how these assignments were completed. The purpose was to understand if there were any task related situations which have had an impact on the development of relationships.

Other documents used for the purpose of research included the daily work sheets filed by the employees in terms of their conduction of business with other team members and completion of daily tasks. It provided to a perspective to different factors such as issues arising from time differences, miscommunications or reasons for delay in completion of the projects. It was helpful in order to understand the relationship dynamics of the teams.

Last tool used for the purpose of research was the data related to the conversations of team members. This data was available only for the official conferences (audio & video) in order to clarify the situations arising during the work and also to establish and re-establish the deadline for the project.

This secondary data was helpful in terms of establishing the validity of the data provided by the interviewees. Apart from addressing the issue of validity, it also helped in understanding the dynamics of GVTs in terms of their day to day activities and their relationship development.

## 5 FINDINGS AND ANALYSIS

This chapter focuses on bringing forward the empirical data collected for the purpose of this study. Furthermore, it presents a thorough analysis of this data. Chapter discusses different themes formulated through the synthesis of collected data and analysis of those themes. Chapter starts with the information which emerged from qualitative research and summarized in tabular form. Its analysis is done according to the six themes identified.

Themes have been divided into two sub-sections. Themes under section 5.1 are the ones which have been identified previously based on operationalization table (see table 3) and were part of the interview guide in order to collect data and find their relevance to empirical world. Section two discusses the themes which emerged from the data provided by the interviews and were not directly part of the operationalization model, although discussed briefly in literature review.

The analysis is performed directly on the data gathered from the transcripts of the interviews. Chapter focuses on the patterns emerging from the data and presents them in matrix form in the start of every theme. These matrices (themes) have been analyzed in brief summaries. The analysis continuous by comparing themes with other data sources (minutes of meetings, conference recordings & work sheets) so as to engulf all aspects of a particular theme.

Towards the end of every theme, there is an attempt to present an analysis of unified data with clear reference to literature.

### 5.1 Interview Guide based Themes

Based on the interviews and operationalization table four different themes have been identified in relation to the development of relationships among members of global virtual teams. These themes present the idea of relationship development in reference to general environment and nature of virtual teams, the trust issues, multicultural issues and influence of working in different projects. Following themes have been identified:

1. Virtual environment, distance and relationship development among members of GVT
2. Trust issues and relationship development among members of GVT
3. Cultural issues and relationship development among members of GVT
4. Multiple projects and relationship development among members of GVT



### **5.1.1 Theme 1: Virtual environment, distance and relationship development among members of GVT**

First theme which has been identified is the one focused on virtual environment along with the influence of distance (temporal and physical) on the nature of relationships among team members. Four categories identified in this theme are related to temporal distance, physical distance, positives and negatives related to the factors of virtuality and distance. Table 5, shows a summarized response of the participants towards these categories.

This theme depicts interesting patterns displayed by different respondents. Problematic, advantageous, coordination, formal barriers are some of the key words mostly used by the respondents. It shows a spectrum of behaviors ranging from pure negative to positive range. However, topic of flexibility emerges in every response although in different ways. The ability to decide own working hours, being able to detach oneself from the group at times and reduced travelling is some of the explanations towards flexibility provided by the virtual environment.

Distance has been viewed as challenging if not problematic towards relationship development among team members. There are mixed responses from different members of the team. Some consider it to be a hindrance towards task clarity and communication while others consider it to be a productivity enhancer. Physical distance has been attributed to influence relationships as well. Most of the respondents think it to be taxing due to lessened phenomena of social interactions and see it as a hindrance towards speedy relationship development.

BITM (Business & IT manager) Mr. Asim was of the view that temporal distance and physical have both advantages and disadvantages. He relates these views to his experience of both current and previous projects.

*“... While I was working on the previous project we were late in terms of delivering the documentation to our client for the first plugin which we had created for them. Quim and Mangesh had worked really hard towards the development of the product and due to their close geographical proximity (Bangladesh and Nepal) they were able to coordinate in a better way. However problems arose when it was time to prepare documentation since it has to be done in coordination with me as I was the contact person with client. In order to meet the new deadline I had to push my team to work at odd hours and it left a bad taste.”*

*“... I think it would have been not the case if we would be working in the same place and would be able to comprehend the situation at the same level”*

**Table 5 Theme 1: Virtual environment, distance and relationship development among members of GVT**

	<b>Temporal Distance</b>	<b>Physical Distance</b>	<b>Positives</b>	<b>Negatives</b>
<b>Javeria</b>	Problematic in terms of working hours, effects the communication	creates misunderstandings at times, depends on the nature of task, Difficult to understand organizational culture	Flexibility in terms of no fixed office hours, helpful in family management	Difficult to develop the understanding of tasks needed to be performed having a negative effect on relations
<b>Quim</b>	Not a problem, helpful in terms of extended work hours	Less social interactions, covered by rich technological media	possibility of having one on one interactions due to different zones	difficult to get all the team together physically or even through video conferencing
<b>Jonathan</b>	nothing negative about it, in fact everyone gets to work on their best hours	not a problem however, sometimes challenging due to lack of simultaneous presence of other members	Challenging to establish the relations in short run but helps in building long term repo	Due to large geographic dispersion sometimes formal barriers take too long to break
<b>Kiran</b>	It is important to follow-up to reduce confusion with other members as time difference tends to make it harder	In relationships it is important to have face to face interactions every now and then	Provides the flexibility and time to think and react to situations and can be used for betterment of relationships	Team members may get stuck with self-reference criteria while judging the situation of others
<b>Asim</b>	Advantageous in terms of overall project time however need of some members to compromise at times for meetings	Brings along problems of coordination and ultimately the relations suffer	Depending on the nature and duration of the project, there are task benefits as well as long term	Not many efforts in team building. Lack of social effect undermining team spirit
<b>Mangesh</b>	Due to nature of my task, not a lot of difference as just had to develop the code and submit	-	Reduced travelling and flexible working environment	It is difficult to assess people and therefore people form perception about other too quickly

Quim and Mangesh are of the view that it was starting of a new project at that time and it was less due to the distance and more due to lack of knowledge of each other's working habits. However, after this first experience the team was able to clarify the roles and it turned out to be a good learning experience. Right after this event took place, team members are of the view that there was kind of bad air for few days. However, once the task was completed they were all able to sit together and through communication sorted out the issue. In the end everyone made sure that it was nothing personal and everyone was looking for the interest of the company.

Based on her experience, Javeria holds the view although distance (both temporal and physical) provides flexibility in terms of working hours; it tends to cause task ambiguity which in turn have a negative influence on the relationships.

*“First I was working with our BITM and it was kind of easy to manage the work but later on I was asked to report to Kiran and things started getting bad. I would usually work at late night hours however my work was being sent back to me because he (Kiran) was not satisfied with the quality of it. It was becoming difficult to understand the requirements and therefore it started taking toll on our relationship. I was complaining to BITM and so was he.... ”*

On the other hand Kiran was of the view

*“I was asked to supervise Javeria's work because of the fact that Asim was busy into many things and we were getting too many complains from our customers... Due to difference between customer and her time zones she had to work at odd hours but it was affecting her performance and she took it on me... If we would be working in close proximity I think it would have been a different situation”*

Above two events depict two different situations where former was related to people who have worked together previously and in the latter case both members were new to the team. Distance was causing friction between the members in the latter case because of lack of knowledge of working habits and communication patterns. Split in above findings reflects the divide in literature as well. One school of thought considers distance to be a problem having negative influence on the relationships, performance and resulting into conflicts among members (Rutkowski, Saunders, Vogel & Van 2007; Lee-Kelley & Sankey 2008).

Other school of thought considers these issues to be traditional in nature which can be bridged by using new working environments and technologies ((2011, 194).

### **5.1.2 Theme 2: Cultural issues and relationship development among members of GVT**

Second theme was related to the influence of culture on the relationship development. Table 6 shows different categories which emerged during the coding of interview data. These categories include language, flexibility, individualism vs. collectivism and importance of social interactions among the team members.

Key terms like misconceptions, miscommunication, flexibility, task orientation and interactions beyond work dominated this theme. This theme displays varied responses depending on the cultural background of the individual respondent. Some members displayed collective responsibility towards the tasks needed to be performed while others were more focused on doing their part of the assignment in timely fashion. This reflects the collect vs individualistic nature of team members. This divide can be both an advantage and disadvantage in organizational context however in personal relationships it does bring out the friction.

From the gathered data there were two instances where it was evident that cultural factors were influencing the relationship development among different members. In first scenario Kiran and Javeria were having friction between themselves while in the other case Jonathan and Quim were able to find a common ground.

When working on the new project and having the problem of meeting customer requirements (as mentioned in previous theme) Javeria and Kiran had their differences. Kiran was of the view:

*“... I understand that in her cultural context emails are considered to be informal because I have been a part of that culture for a long time whereas one needs to understand that it is our basic medium of communication while we are working GVT. She would at times not reply to emails in time or acknowledge the reception and understanding of the tasks and it later on would increase the work load for all of us...”*

This observation from Kiran was endorsed by Asim as well in different words.

*“My basic reason to delegate authority to Kiran was that I had too much to do and I could not keep track of the delays caused by Javeria’s behavior”*

**Table 6 Theme 2: Cultural issues and relationship development among members of GVT**

	<b>Language</b>	<b>Flexibility</b>	<b>Individu- al/Collective</b>	<b>Social Interactions</b>
<b>Javeria</b>	It helps to remove the mis- conceptions if I have some- one on the other end using native language	Late night working hours cannot be managed always therefore other members shall be tolerant to it	Completion of my task is my utmost priority	Possibility of such interactions is quiet low due to geograph- ical spread
<b>Quim</b>	English is our mode of communication but some- times it does create confu- sion which effects relations	Time flexibility is a trait of GVT and it helps at fostering better relations	We are interdepend- ent for performing our task even when working on our own	It would help to de- velop understanding for other members and cultures
<b>Jonathan</b>	awareness of language bar- riers is important and there- fore it needs a conscious effort to make sure the any miscommunication is taken care of at the early stages	in cultural context flexibility towards others makes it pos- sible to learn new ways of doing things	we need to under- stand that we are part of the same chain and therefore need to be helpful in achieving each other's tasks	It is crucial in order to foster team spirit and look beyond the tasks we are sup- posed to perform
<b>Kiran</b>	Three members can speak in the same native language and that sometimes is help- ful in terms of having clarity and good relations	Limited flexibility is fine but then there are deadlines to be taken care of.	If everyone follows the deadlines for their task it is possible to finish projects on time	It can help to remove communication bar- riers and move for- ward together
<b>Asim</b>	Members need to under- stand that operating in GVT environment demands toler- ance towards misconcep- tions arising due to language	Everyone can have problems in personal life and therefore deadlines need not be really strict	It is important for me to understand societal backgrounds of members to manage their relations	These are important but in current cir- cumstances possibili- ties are very low
<b>Mangesh</b>	It is important not only to look for verbal but non- verbal communication in order to develop an under- standing of other team members.	Better planning at the start can provide room for flexible environment and hence better rela- tions	Every project may not be a success story but as a team we shall not enter into blame game	There shall be fre- quent interactions apart from work. It lightens the air and increase trust

However it is interesting to note at this point that Javeria and Kiran both have individualistic approach towards their tasks which shall have created the synergy between them but it happened the other way around and they entered into a conflict which had to be mediated by Asim.

In Second event, Jonathan was of the view that he was able to learn from Quim mainly due to the cultural difference in their respective settings.

*“Once I was stuck with the programming process for our client’s website related to marketing function in one of the south Asian markets. It was at this time that Quim was able to make me understand the different cultural setting I was approach as my target and how I needed to change my approach towards the whole process. It was a good learning experience and would have not been possible without him”*

Above events in this case study show people from different cultures getting into conflict or helping each other when needed. An interesting finding in these two cases is that Kiran and Javeria are similar on individualistic scale but over all their cultural setting is influenced by their surroundings. Similarly, Jonathan and Quim have a collective approach towards their work but still are different than each other when seen as a whole through cultural lens. Apart from the conflicting and cooperative situations, most of the members believe that flexibility and tolerance towards language could help in improving the relationships among members. All of the interviewees had a positive outlook towards social interactions and believed that it can provide opportunities to strengthen interpersonal relationships. However they also noted that due to resource limitations it is currently not possible

Cultural differences can have negative influence on the organizational culture as it is difficult to reach consensus on the ways how a team is supposed to perform. It increases the difficulty of forming a common organizational culture and that may lead to conflicts among team members. this finding is consistent to study by Mockaitis, Rose and Zetting (2009, 5) where they are of the view that when team members belong to different cultures and are dispersed into different countries; cultural differences make it complicated to form common team culture or shared vision while even the shared information is also interpreted differently.

Above findings are consistent with previous literature on diversity which argues that it can be a source of creativity as well as a source of conflict. Stahl, Maznevski, Voigt & onsen (2010, 693) argued that it may foster creativity but it leads to convergence of members and therefore influences interpersonal relationships negatively as in the case of first event.

Axtell, Fleck and Turner (2004, 214), on the other hand, argued that one of the prime reasons for forming GVTs is to include diverse expertise and take advantage of the knowledge of different locations. This has been the case in later event.

### **5.1.3 Theme 3: Trust issues and relationship development among members of GVT**

Third theme is based on the level of trust and its influence on relationship development among team members. Reliability, competence, integrity and social relationships were the major categories defined for this theme based on interview data. It is interesting to note that first three categories refer to with cognitive-based trust (CBT) and the last category refers to affective-based trust (ABT). Most of the interviewees stressed the importance of categories related to CBT and had a little concern about ABT. It could be attributed to the nature of GVT as it is a new project with new members in it. Also, it can be attributed to the overall size and relatively young age of the organization in itself. Jarvenpaa, Knoll, and Leidner (1998) studied globally dispersed teams and came up with the results that in the initial stages of projects, members have CBT whereas with the passage of time, towards the end of the project factors related to ABT were of more importance.

Key terms such as performance, ability to complete the tasks, having the knowledge of own field, truthfulness towards team and project, positive attitude and interaction beyond work boundaries emerged during the discussion of trust development and its influence on relationships. Mostly, members of the team were of the view that it is the ability of oneself to perform within the guidelines which would lead others to trust them. Also, it was pointed out that knowing that one can rely on others for completion of certain tasks and them coming up to the expectations would lead to a trusting relationship. This factor was mostly highlighted under integrity where self-belief and ability to believe on others' work came to light.

Taking work relationships to the next level through socialization was considered important by the respondents however, they saw few opportunities to interact outside work domain due to geographical spread among the whole team. However, there have been instances where members have met other members outside work domain. Three different events were highlighted in this respect.

First Mangesh and Quim were able to meet in Nepal when Quim was on a leisure trip. They were of the view that they already had good relationships; however, meeting each other took it to a whole new level where they were aware of personal life issues of each other and were able to develop a deeper understanding in terms of problems which may come during the projects.

**Table 7**      **Theme 3: Trust issues and relationship development among members of GVT**

	<b>Reliability</b>	<b>Competence</b>	<b>Integrity</b>	<b>Social relationships</b>
<b>Javeria</b>	reliable performance from my part is a contributor to success of the team and my own success as well	Knowing what one is doing helps a lot in saving the resources and helps the team as a whole	First, members shall have believe on others and then we can deal with issues like delays without prejudices	socializing can help in knowing the others better and will influence performance positively
<b>Quim</b>	A lot depends on the function I perform and therefore I have to meet the expectations	Team members shall be aware of the fact what capabilities do the others possess. it increase the trust level	Having a positive attitude towards others, most importantly believing them is fundamental to trust	Rather than duration, extrovert personality builds trust faster and easier.
<b>Jonathan</b>	It is crucial to have the feeling that others we are working with would be able to complete their tasks in time	Not only technical competence is important but social competence to jell in is crucial.	Standing up to one's decisions in any circumstances makes them trustworthy	In long term most of the relationship issues can be solved with frequent social activities
<b>Kiran</b>	being reliable for and towards team members does influence relationships positively	each individual in our team has the required skills for their tasks	Part of trust is to accept the positive criticism and improve on it rather than taking it as something on ur integrity	With the passage of time we do tend to move away from just focusing on our tasks and towards individuals themselves
<b>Asim</b>	It is single most important factor for every one of us to achieve success	It is not only about the work always but how members behave towards each other	Values are building block of trust and members shall hold on to organizational values	Longer we interact better it is for our relationships beyond work boundaries
<b>Mangesh</b>	Basing your work on others performance is the essence of team work	Technically sound as well as proactive and cooperative behavior has a positive influence in relations	Performing the tasks within the preset boundaries does influence trust	-



Similarly, Kiran and Asim were able to meet in Finland when Kiran visited Finland in order to meet a client. It helped them in developing future plans for the organization and provided them with the opportunity to explore possibilities of new projects. According to Kiran it provided him with much needed assurance in terms of his achievements and future.

Third such instance happened when Asim visited Pakistan and met Javeria in the initial stages of project. It was helpful for Javeria in order to build her confidence about working in virtual setting. Also, she was of the view that it was helpful because it always adds to believe and trust about the people and organization for which one is working for. These events outside the domain of business have helped the members to form strong interpersonal relationships and trust each other.

CBT has been stress by all the members however a particular event of issues between Javeria and Kiran is worth mentioning again. It has been discussed previously in distance and cultural perspective however, since this working relationship is still intact due to the ongoing nature of the project, therefore, it remains to be observed that how this relationship develops in future. During the interviews, Kiran attributed this rocky relationship to different factors ranging from distance to culture and to trust issues. His view from trust perspective was:

*“I don’t have any doubt on her ability and competence to perform. I trust her abilities, however, I think it is a different line of work for her and therefore she has to be more receptive towards learning which would help both her and our organization in the long run.”*

Javeria, on the other hand, had different perspective. She said:

*“There were no complains about my work before when I was working with Asim. The only problem was that I was not able to meet the deadlines for few times. Which I admit should not have happened. However, since I started working with Kiran I am having trouble. He does not trust my work and almost every time I have to redo it...”*

These different perspectives show the nature of conflict between two members of the team. This event reinforces the above discussion that there are trust issues. However, they are not of personal nature but mostly related to work. The person in question thinks that it has to do with her competence and integrity whereas supervisor has a totally different perspective. It still remains to see how this situation is going to be resolved. Although, steps have been taken by Asim to define some Standard Operating Procedures (SOPs) discussed in Theme 5 but still it is not clear how the situation will turn out to be in the long run.

#### 5.1.4 Theme 4: Multiple projects and relationship development among members of GVT

**Table 8** Theme 4: Multiple projects and relationship development among members of GVT

	Change in Members	Duration of Project	Possibility of Continuity
<b>Javeria</b>	Being a new member, I think I need to develop understanding with other members of the team	Current project is short term in nature and most of the times focus is to complete the tasks in time	This is my first project with this team and I am not sure about the future prospects
<b>Quim</b>	old members do come with good or bad history, however new members can be a catalyst to developing the relations further as a team	Long term projects do provide more room to look outside the work sphere and have some social interactions to know each other at personal level	If members are aware of their long term role in the organization, it does help in having better relations
<b>Jonathan</b>	A mix of old and new members may have problems of developing new patterns of communications but it is not without its advantages	Longer tenure does help in better understanding and therefore reduces the chances of future conflicts	Possibility of future prospects with the same people does change the behavior considerably
<b>Kiran</b>	It is according to the nature of the project that new members come in however it shall not influence ones behavior towards others	Short nature of projects implies that we have to be really efficient and therefore expectations from each role are to meet the milestones as planned	It is kind of a possibility of job security which obviously does reinforce positive behavior towards others
<b>Asim</b>	Sometimes it does create sub-groups within the team because of previous level of understanding with old members	tenure of project is significant however, it is important to realize being part of the organization in long run	Since requirements change from project to project hence some members are for one project. It has negative effect on relations
<b>Mangesh</b>	It is always good to have new members as they come with new knowledge and expertise which help in increasing the efficiencies	It's not about the duration but about achieving the end goals. More harmonious the team is easier it is to achieve the end goal	In my case I am part of organization even when not on a project. It does increase my trust on my firm.

Fourth theme which emerged during the analysis of collected data was focused on tenure of the project and working on different projects with a mix of old and new members. Three categories which emerged during the coding process were related to the composition of team, duration of the project and possibilities of continuity with the organization in future.

Key terms used by interviewees included new knowledge, learning possibilities, short term and long term projects, job security and future prospects. Most of the members had a positive outlook towards new members. They were of the view that inclusion of new members is mostly a positive phenomenon. They bring in new knowledge and cultural dimension to the team which is always an added advantage when company is operating at a global level. Some of the members are of the view that it is even beneficial for old members to revive their relationships when there is a change in the team.

However Mr. Asim (BITM & Owner manager) had some different views. He was of the view that although new members do have their advantages in terms of new knowledge and diversity but at times it does not help the project as it should. Talking about his previous project he said:

*“Every member of the team would acknowledge the advantages brought by the new members but during the last project we had a different experience when one of the new members became prime reason for the division among the team and there were two clear sub-groups within the team”*

There is evidence in literature diversity may not provide the benefits as much as perceived by the teams and in fact may cause fault lines while subgroups start to emerge (Fiol & O'Connor, 2005).

During the discussion on duration of the projects, Four out of six interviewees were of the view that short term projects leave no room for social interactions and mostly team is task oriented. It is in this context that most of the times focus is professional side of interpersonal relationships. Also it is due to this fact that mostly conflicts are task related and not personal in nature (Appendix III).

As discussed in literature that tenure has long been considered to have an important influence on group development (Pfeffer, 1983; Weick, 1969). Jehn and Mannix (2001, 241) reported on the nature of conflict in long term teams and found out that in such teams consensus on work values leads to effective patterns of task conflict and lower levels of relationship conflict over time.

It shows that personal relationship development is a long term process where members get used to each other while being together for longer periods of times. However during this

research there was no conclusive evidence found if conflicts are of personal nature in the short run. On the other hand it was found that even in such instances the focus is on tasks and task related performance & conflict.

While discussing the tenure of project and composition of teams, members were of the view that apart from these two factors, knowing the future prospects of continuity with the current organization also plays a major role in the development of interpersonal relationships. Javeria discussed the example of the ex-member who was let go after the first project and she replaced that member for the current project. She said:

*“I know there were problems in previous project and I had been made aware of the issues of sub-groups being formed during that project. Also, it was told to me what was expected from me in this regard. However, due to current conflict situation with Kiran, I am still not sure about my future prospects at the firm. In my opinion, it does have an influence how I perform my tasks and approach different team members”*

In the context of tenure of project, Asim also focused on the area of continuity with the organization. He himself is convinced that team members shall have a positive outlook towards future with the company. In case of Javeria he argued that

*“I know it is important for her to feel secure about her future however, she has just joined the organization and it would take me sometime to judge her work and performance. But more than that it is important for me to know how well she would jell into the team...”*

He further shared the experience of a previous member who had been let go from the organization. He was of the view that this incident relates to trust as well as continuity with the organization. The member who was let go had been working with the organization for relatively long time. His job was to develop the codes for different products. The instant after which he was let go happened in the previous project. There was a customer demand for a particular plugin based on six different attributes. Initially when BTIM consulted with the code developer he was of the view that he would be able to manage the project. However, in middle of the project code developer started requesting for extension of deadline due to which company had to loss the client in the end.

*“It happened so that with the passage of time, he (code developer) started thinking himself to be the backbone of projects. He was able to get extensions on previous projects but I*

*had warned him that he shall stop overpromising as it was hurting the business development side and therefore after this incident I had to let him go” (ASIM, BITM)*

Continuity provides much needed security but has a negative effect as well, as described in above case. Members may start taking things for granted and it leads to business failure and loss of clients. Therefore it is dependent on employee performance.

Major findings related to this theme were that composition of team has a major role towards the development of interpersonal relationships. New members bring diversity and knowledge with them which helps other learn in the team and form a bond with them. However, it is not without some challenges, one of which includes team division or formation of sub-groups in the team. It was also found that tenure of the project shifts the focus towards personal or professional issues. Contrary to the evidence in literature, it was found that even in projects of short tenure possibility of task conflict is higher than personal conflict. Lastly, it is evident that relationships may take a deeper meaning when team members are positive towards their future at the organization.

## **5.2 Emergent themes**

After collection of data, during the coding process, there were two emergent themes which were not part of the initial operationalization plan. First theme was related to the level of formalization in the team & its influence on relationship development. Second theme was related to the means of communication used by GVT and its influence on interpersonal relationship development among team members.

Communication has been discussed in literature under different sections from different perspectives. It has been discussed in terms of its influence in multicultural and language setting (Section 2.3.3). It has also been discussed from the perspective of trust (section 2.3.2) and project duration (section 2.3.4). In terms of means of communication, it has been discussed in the section dealing with distance and its influence on interpersonal relationships (Section 2.3.1). After conducting interviews, however, it emerged as an important influencer on development of interpersonal relationships instead of only in relation to other characteristics of virtuality.

Similarly, level of formalization has been discussed under the section dealing with structure of different GVTs (Section 2.2.3) where it discusses different types of team structures possible for such teams while discussing its impact on day to day activities of employees. However, study was not able to draw a conclusive link between structure and interpersonal relationships in the initial stages of literature review. It was mentioned by interviewees that formalization has a direct influence how they develop into a team (Discussed further under

section 5.2.2). Following two sub-sections discuss these two emergent themes and findings related to them.

### 5.2.1 Theme 5: Level of formalization and relationship development in GVT

**Table 9 Theme 5: Level of formalization and relationship development in GVT**

	<b>Self-management</b>	<b>Need for Hierarchy</b>	<b>Standard Operating Procedures</b>
<b>Javeria</b>	-	-	If there are SOPs regarding frequency & ways of communication it is possible not to have conflicting situations
<b>Quim</b>	Nature of my work is such that I don't need much supervision and it is dependent on my own time management	It is not necessary to form hierarchy	These can be really the guiding principles about communication, interaction and deadlines
<b>Jonathan</b>	Being a programmer means that I have to manage my own work	It is better to have some level of formalization to find role clarity and for the purpose of responsibility	We have developed a code of conduct in terms of regulating the working patterns which is advantageous overall
<b>Kiran</b>	-	There shall be some level of formalization so as to understand the flow of work and reporting structure	In certain situations at one to one level these have helped us to maintain healthy working relationships
<b>Asim</b>	It was the idea from the start however due to ever changing nature of the team it seems less of a possibility specially	Due to the conflicts, it has emerged over a period of time. At least in terms of role clarification	I have to make an effort to come up with SOPs in order to share responsibility as I cannot be at all the place all the times
<b>Mangesh</b>	-	-	-

This theme came up during the interview with Asim (BITM & Owner Manager). When discussing different events related to previous project such as letting go of an employee, as

well as the current team member who is finding it difficult to be a cohesive part of the team. When asked that how does he tackle these issues. He was of the view that in the start of the business, they used to work within our domains and there were no task or personality related conflicts. However as the business starting growing, the number of projects increased and new hiring's were done. Suddenly it was not an organization composing of friends working under through self-management. Conflicts started emerging regarding the clarity of tasks and in communication gaps started widening. It was in this scenario, that hierarchy was introduced in the company. He was of the view

*“As the business grew, I felt the need to delegate. It meant for the business to have certain hierarchy. However, it lead to conflicts about to whom I delegated and how others attitude was changing towards them”*

This explanation led to the emergence of rules or standard operating procedures. Where different members were asked to have videoconferencing with the ones they were working with.

Other members related to programing and development process had a different perspective. They looked at the subject in terms of their own work. They were of the view that nature of their work is such that they do not need to be checked up. In this context both Quim and Jonathan had the perception that some level of formalization is good in order to remove confusion but there is no particular need of hierarchy in the organization.

On the other hand, new members in the team had a different perspective and their views were aligned towards the need for hierarchy and rules. Javeria was of the view that rules and regulation would make it easier for her to manage her work. Kiran was also supportive of the idea in the sense that rules would inforce regular mandatory meetings and therefore it would help ensuring that the deadlines are met while managing the quality of work.

In terms of interpersonal relationships, all the members were of the view that hierarchy may cause some formal channels of communication and rules for achieving the tasks. However it will only have positive influence on interpersonal relationships. It would provide guiding principles in terms of interaction and command and authority. These rules were deemed necessary to avoid conflicts. Also, if conflicts arise, rules were considered to be helpful in solving them with consensus.

### **5.2.2 Theme 6: Role of Communication means in relationship development in GVT**

For this theme four different types of communication were identified including Emails, Teleconferencing, videoconferencing and face to face communication.

Key terms such as level of importance, personal, non-personal and attitude emerged during the discussion with interviews and coding process. Overall, it was observed that team members favoured the rich and synchronous medium of communication. Most of them were of the view that face-to-face communication is the best option in terms of having minimum conflict and providing maximum task clarity. They acknowledged the fact that while working in GVTs, such communication is expensive and rarely possible.

Members also favoured the possibility of communicating through videoconferencing. Videoconferencing was deemed best possible alternative to face to face communication. However, it was also noticed by the members that it is not possible to communicate through this channel always because of the differences in time zones. However, it is better to use this technology while dealing with complex situations such as conflicts or tasks requiring input of every team members. They were of the view that it may not have as strong influence on interpersonal relationships as face to face communication, however it still leaves with the possibility to observe each other's body language and therefore it is possible to have a clear picture of feelings and emotions of members towards each other.

Teleconferencing was approached with mixed views from the members. Some thought it to be effective means of communication as compared to email and others found it to be advantageous in situations where some of the members are not able to be part of videoconferencing due to any reason.

Email was concerned to be a non-personal way communication. They acknowledged the fact that due to cultural background of different members, they attach different level of importance and priority towards emails. It was mentioned again that the events happening between Kiran and Javeria are an example of this problem. However it was also pointed out that emails are most effective means to communicate in order to take advantage of different time zones and convert these time differences into extended working hours. In terms of interpersonal relationships, it was pointed out that communicating only through emails can lead to conflicts instead of solving the issues and therefore it is important to communicate through a mix of different media depending on the nature and requirement of the task. This finding is consistent with literature. Carmel & Agarwal's (2001) middle ground approach propagates for a balance between asynchronous and synchronous communication, to alleviate the problems of dispersed work, while reaping the benefits of continuous shifts.



**Table 10**      **Theme 6: Role of Communication means in relationship development in GVT**

	<b>Emails</b>	<b>Teleconferencing</b>	<b>Video Conferencing</b>	<b>Face-to-Face</b>
<b>Javeria</b>	Emails are too non-personal and create confusions at times	A better way to communicate however in complex situations I would prefer video conferencing or face to face communication	As close as we can get to face-to-face communication in current scenario of the organization	There have been no instant where I would have meet the whole team face to face but I assume that it would have better influence on team building
<b>Quim</b>	Emails can be less effective due to cultural level of importance attached to them but are effective at the same time	Still does not address cultural issues but is better due to the possibility of knowing verbal expressions	It is helpful in understanding both verbal and body language of members	Without any doubt face to face communication is helpful in building better relations
<b>Jonathan</b>	Emails are one of the advantageous means because of spatial distance but can have negative effect	Better than emails but have to consider the availability and odd timings for others across the globe	Same as teleconferencing but with the advantage of understanding the expressions of team	It is better only if all the members are really open towards each other. We have to be aware of cultural aspects in it.
<b>Kiran</b>	Apart from task information, Emails can be a better tool while in conflict situation due to its non-personal nature	It is a better way to deal with complex interpersonal situations than emails	Problem of coordinating and technological issues can be downside otherwise better way	Yes it helped in formulating the future plan for our projects way better than any other means of communication
<b>Asim</b>	Better way to communicate when members have same outlook towards them but can do little to reinforce relations	It is comparatively rich medium of communication and therefore helps in building better relations	Best possible way even better than face-to-face interactions due to cost saving and media richness	Depending on the nature of work, face-to-face communication can be the solution to relationship issues and conflict
<b>Mangesh</b>	Emails help in collaborating across distance but may have negative effect on relations	Having verbal dimension to communication definitely helps in relations	Both verbal and non-verbal behaviors are visible and therefore a preferable way	Face to face communication is effective but possibility of it in our GVT is low

## 6 DISCUSSION AND CONCLUSIONS

This chapter focuses on the observations made on empirical data which has been presented and analyzed in previous section. Purpose of these observations is to find the connection between empirical data and theoretical framework. After presentation of brief observations, chapter continues with the focus on answer to the research questions presented in chapter 1. Later on conclusions are drawn from the research based on the empirical data, analysis and answers to research questions. Later sections of this research focus on theoretical and practical implications of this research with in the limitations. Towards the end, this discussion leads to possible avenues for future research.

### 6.1 Observations on Analysis

There are multiple observations to be made on the analysis of empirical data conducting during the course of this study. These observations follow the same order as the themes discussed in previous chapter.

The first theme “*virtual Environment, distance and relationship development among GVT members*” shows different perspectives of the members in terms of relationship development based on distance and general virtual environment. It can be observed that these perspectives are marked by the background and experience of these members in terms of working in virtual teams. It is evident that in case of new members joining the team, friction is there due to temporal and physical distance. However, as they get used to the environment, things start to ease in. This is observable from the behavior of members who have been part of the team for a longer duration of time.

It is evident that for members it is important to realize that virtual environment is considerably different that working in traditional office space. This is one factor which is causing the problems in development of personal relationships. It is in this context, that the distance would undermine the frequency and level of interaction among members. It is evident from the analysis section that distance provides many benefits in terms of extended working hours and taking advantage of multiple locations. However, focus of the study is not efficiency or performance of the organization but interpersonal relationships. It seems that distance is having negative implications in terms of interpersonal relationship development. It can be argued at this point in time that performance and efficiency are related to interpersonal relationships and therefore it is not possible to have negative relationship development while the firm is performing and meeting its goal. In this perspective, it is important

to note that interpersonal relationships do play a major role towards the performance but are not the only factor.

Second theme “*Cultural issues and relationship development among members of GVT*” focused on the question that what happens when people from different cultures start working together. The situation is further complicated by the factors of virtuality. It was seen that in case of GVTs, one of their basic attribute is cultural diversity. In terms of relationship development then, it is not the question of reducing the diversity itself but its management in a productive and collaborative way. A major and somewhat different observation in relation to culture and relationship development has been displayed during this study. It was observed that certain members although displaying same behavior on individualistic-collective scale still had differences. It can be an individual case, however it provides evidence contrary to the belief that mostly people from different cultural settings are going to cause conflict and influence the development of relationships negatively.

Different language and fluency in it is considered to influence development of relationships in a negative manner but when some of the members are using the same language it is also leading to emergence of sub-groups. Social interactions, in different cultural settings from which different members belong to, have been cited as having a positive influence towards interpersonal relationship development. It has been argued by the members that such interactions provide them with the opportunity to develop a better understanding of other members’ culture and therefore can considerably reduce the friction among them. However, at the same time they noted the small possibility of it happening due to resource constraints of the organization.

Third theme “*Trust issues and development of relationships among members of GVT*” takes a center stage in this research as observed through the analysis of empirical data. It is this characteristic of virtuality which transcends through all other themes at some level. Distance, cultural settings, inclusion of new members, organizational hierarchy and means of communications are the factors which are influenced by the level of trust members develop over a period of time. Trust does not only influence the development of interpersonal relationships but also these factors which are directly related to development of interpersonal relationships among members of GVT. It is for this reason that establishing and maintaining trust within a virtual team can be considered a determining factor for the development of interpersonal relationships among members of GVT.

From empirical observations it can be argued that in order to be effective team members must trust or have the means to monitor the behavior of each other. This trust requires the members to understand cultural settings of other members which are different than their own due to distance and geographical locations. It also means that all the members are re-

quired to understand the level of importance attached to different means of communication among different cultural settings. However, trust is not going to be mutual until and unless there are some monitoring systems available. Such systems have emerged in the form of standard operating procedures and formalization in the organization.

In terms of interpersonal relationships, it is observed that trust is also established and maintained through integrity (ethical behavior) displayed by the members towards their own tasks as well as towards other members of the team. Social relationships can be developed at later stage when members have worked together for a long period of time. It is evident from the data gathered that teams are formed with almost no physical contact in the initial stages. It is for this purpose that mostly teams work through different media and their focus is task based trust (CBT). It is at later stages that through working on different projects with same members the trust level increases and it moves beyond the boundaries of CBT. It is at this point when members already have trust about the competence, ability and integrity of other members and they are willing to go one step further in order to develop ABT.

Fourth theme “*Multiple projects and relationship development among the members of GVT*” deals with one of the research questions where the focus is on relationship development in relation to duration of projects and composition of teams. It is observable from the analysis section that most of the team members have a task focus during the projects of shorter lifespan. Members tend to believe that longer they work in the team, better it is for their interpersonal relationships. It is for this reason that they placed more importance on the prospects of continuity with the same organization as compared to project itself.

In the start of this project it was assumed that teams in which few members are new and rest are the same, are going to display a different behavior than the completely new teams. It can be gathered from the analysis that these kind of difference occurs at two different levels. One, new members can act as catalysis’s to improve the relationships among existing members whereas on the other hand, it is possible that it may lead to creation of sub-groups. It is important to notice however that the phenomena of sub-group creation is not only limited to the team composition but it can also emerge due to cultural differences.

Composition of teams, therefore, can have varied implications towards development of interpersonal relationships whereas possibility of continuity and longer tenure of the projects have been related positively towards the development of interpersonal relationships. Addition of new members tends to disturb the team balance in terms of cultural diversity and forming of new habits, however, it is not as extensive as it would be in completely newly formed teams.

Theme 5, “*level of formalization and development of relationships among members of GVT*” was first emergent theme found on the basis of data analysis. It has been discussed previously under the observations about trust (theme 3) that control systems have been considered important in terms of relationship development among members of GVT. Empirically collected data shows that the level of formalization is directly related to the kind of relationships members of a team are going to have.

It is observable from this theme that old team members have a different attitude towards formalization and hierarchy development in the organization as compared to the new members. Old members display a typical resistant behavior to change whereas new members feel the need for these steps in order to perform optimally. It could not be established through this research if these differencing perspectives are going to lead towards the formation of further sub-groups or not. This dimension of composition of teams needs further investigation.

It is interesting to note the organizational perspective at this point. As the case company is a small business which has started growing therefore it is plausible able to say that new rules and regulations are going to emerge with the growth of business and increased number of employees. However, the case of already established businesses remains to be seen. It would be interesting to note how old and new members act toward each other in the sphere of relationship development when there are already established rules and regulations.

Last theme “*Role of communication means in relationships development in GVT*” focuses on direct influence of means of communication and relationship development. It is observed that means of communication can be seen through different cultural lenses and therefore relationship development is guided by such means. In terms of these means of communication it is evident that the lack of face-to-face meetings presents a difficult situation for members of GVT. All the members acknowledged the importance of social interactions in terms of relationship development then if these interactions but due to practical reasons such interactions are reduced to electronic means. It raises the question about where to strike a balance so as to reduce this dilemma to minimum.

Members of GVT showed this duality during their interviews where on one hand they wanted to have social interactions in order to form a cohesive unit, but on the other hand, tended to rely on one-on-one interactions because this approach seemed to be more effective in terms of goal achievement. It was observed that rich the medium for communication is used better it is considered for the development of relationships however on the other hand expensive it becomes for the organization. Therefore balance is required in order to keep in check the costs but at the same time provide space for relationships to grow among the members of the team.

One of the purposes of this study was the focus on dyadic relationships and thereafter the influence of these dyads on the development of relationships at team level. As it has been discussed in detail that dyads keep on evolving on the basis of different events which take place between two members, however these dyadic developments in turn influence the working environment of whole organization. This influenced environment shapes the relationships among members of GVT. In the current project, the relationship between Javeria and Kiran has led to the development of organizational rules and regulations along with formal hierarchy in the organization. These changes are now guiding the relationships in a formal manner. Now different members are reporting to other members and therefore team structure has evolved from being a spontaneous team to a hierarchical team. Similarly the incident of letting go of a pervious member has influenced the relationship between two members (Quim & Jonathan) related to programming and coding where they are more harmonious in terms of sharing responsibility and are looking beyond their own tasks.

Above events are exemplified situations which show that the relationships between two members can have a far reaching influence on the whole team. These influences are not only limited to the relationships among all the team members but also on the working environment of the organization itself

## 6.2 Research Questions

It is at this point that after gathering data, conducting analysis and making observations on analysis, study looks back at research questions which motivated this research and answers those questions.

In chapter 1, major research question was set to be: *“how do relationships between the same members of GVT develop over a variety of projects?”* In order to answer this question, the statement was further divided into two research questions.

- (a) *“How do characteristics of virtuality influence the relationships?”* and
- (b) *“How do project duration influence project members’ relationships?”*

Following sub-sections discuss different observations made in relation to above sub-questions. These answers seen together answer the main problem under investigation.

### ***6.2.1 Sub-Question 1: How do characteristics of virtuality influence the relationships?***

In order to answer this question, characteristics of virtuality were identified through literature review. These characteristics included distance (both temporal and physical distance), language and cultural differences and trust. During empirical study and thematic analysis two additional factors were identified. These factors included the level of formalization in the organization and means of communication used in virtual environment.

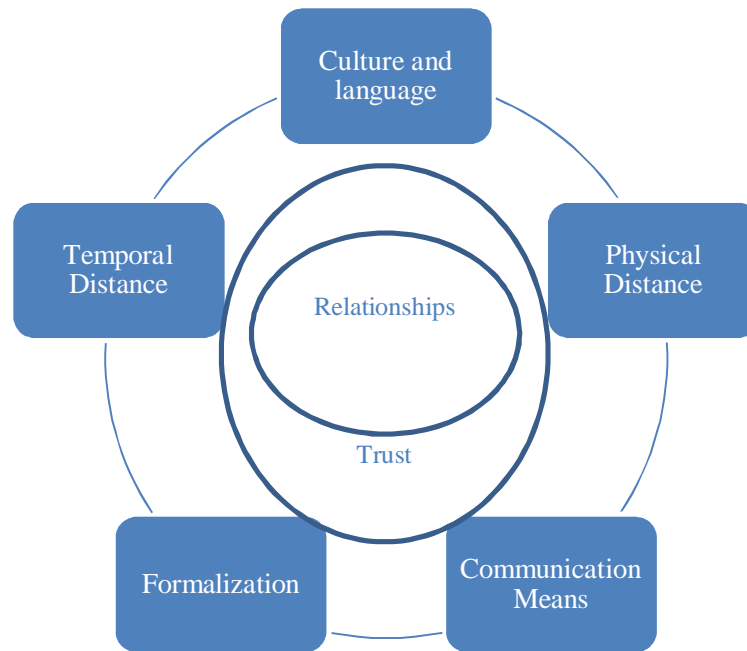
It is observed that trust plays a central role in the development of relationships in virtual teams. Other factors also have direct influence in the development of relationships among members of GVT both at a level of one-to-one relationships as well as at team level. Trust acts as a central factor because of the reason that it not only influences relationship development but is also connected to other factors of virtuality in one way or the other. For example trust levels can increase or decrease because of cultural difference but reciprocally higher trust levels can make it possible to use asynchronous medium of communication which in turn keeps the cost levels down for the organization.

Overall, it can be deduced from this research that different events have different level of influence on trust level among the members of GVT. Trust may start from very low levels but tends to increase over the period of time. However, this increase is not constant in terms of moving from zero to positive but it does fluctuate with different event as it was shown in the case of a member who was let go. This event displays that initially trust levels were not so high and due to the hard work mutual trust was developed among the members. However, at later stages this level of trust was not sustained and the member was let go from the organization. In terms of relationship development, it is observed that members of the team would start with a task orientation towards each other which with the passage of time would take the relationships to next level when they have complete trust on each other in terms of competence and integrity towards the tasks.

Distance is considered to have a positive influence on working and efficiency of the GVTs however it is seen as having a negative influence on relationship development among team members. With distance come different working environment and different cultures. In order to develop a cohesive team it is important that focus is shifted towards mitigating the negativities attached with temporal and physical distance. In order to do that, members need to develop an understanding for the cultural context in which others are operating.

In terms of cultural and language issues it is observed that use of one standard language (in this case English) tends to find a common ground for the members to operate into. However, in one-on-one interactions between members who have same mother tongue,

they tend to use their native languages. It can have a negative influence on rest of the team members and lead to negative relationship development. It is also important to note that it is not necessary if the conflict is going to arise among members belonging to different cultural settings but there are equal chances that members from similar or same cultures end up in conflicting situations.



**Figure 16 Relationship Development in Virtual Context**

It has been observed that communication patterns have an influence in different contexts spanning from cultural values to day to day working. In this context the participants of the study displayed that means of communication have a direct influence on their relationships. Asynchronous communication was considered to be less effective in developing better relationships than synchronous communication. It was related to the reliability of means of communications to solve the conflicts. Richer the medium of communication better it was found to resolve the conflicts and therefore it lead to better relationship development among the members.

Formalization has been viewed as fulfilling two different purposes. It has been considered to provide guidelines for task performance but at the same time is considered to guide the behavior of members. Although there is conflicting evidence in this case study for the need of formalization in order to guide the relationships but at some level it has been considered beneficial. The benefits of formalization are more evident in terms of dealing with adverse situations and conflict. It is therefore considered that formalization is guiding and reinforcing the positive behavior among team members.



Figure 16 represents the summary of above discussion as it focuses on development of relationships among team members in this particular case study. It has been argued already that all other factors apart from trust have a direct influence on relationship development. However trust has a dual role to play. It has direct influence on relationship development but at the same time it is either influencing or is being influenced by other factors of virtuality.

### **6.2.2 Sub-Question 2: How do project duration influence project members' relationships?**

Second part of this research was focused on the influence of duration of projects and emergent nature of composition of teams on relationship development among members of GVT. Previous research conducted in this domain found that longer the duration of the project more likely it is that task related interactions would change to personal and social relationships. It was however, not clear from previous studies that when some members leave and others are added to the team how it influences the relationships.

In this study it was found that members working on short term projects are focused on task related professional relationships due to time pressure and therefore it leaves less room for social interactions which would help members to form long term relationships. It is was this focus on work where it was found out that even in short term projects nature of conflict was task oriented. This finding is contrary to previous findings which suggest that in long term projects when members get to know each other they move beyond a level where conflicts remain only task related as they have a better understanding of each other's behaviour at personal level. Apart from duration of the project, it was found that possibility of knowing the future prospects of continuity with the current organization also plays a major role in the development of relationships among members of GVT. In this context, tenure of project in itself played a less important role than the assurance of continuity in future endeavours.

Study found relationship between changing nature of team composition and relationship among members of GVT. It was found that inclusion of new members is mostly viewed as a positive phenomenon in terms of diversity and new knowledge they bring to the organization. In terms of relationships, inclusion of new members can have both positive and negative influences. It was acknowledged that new members can act as a catalyst for old members to revive their relationships when there is a change in the team. However, changing the composition of team through inclusion of new members was also related to emergence of

sub-groups which could lead to negative relationship development and hence can give rise to conflicting situations.

### **6.2.3 Main Question: how do relationships between the same members of GVT develop over a variety of projects?**

Main issue under investigation during this research was to study the development of relationships between the members of same GVT over a Variety of projects when some of the members are replaced due to the nature and requirements of new projects. In order to find out the answer, relationship development among members of GVT was studied from two perspectives. First the focus was to study this development in virtual context and then to figure out the influences of different projects over a period of time.

It was found out that relationship development is dependent on trust. Trust may start developing from task related professional issues towards more personal level. Apart from trust, other factors which had either a positive or negative influence on relationship development included cultural perspective, distance, means of communications and formalization of the organization (as discussed in detail under sub question 1).

It was also found out that relationships tend to develop strongly with the passage of time. It means that in projects of longer duration members get to know each other at a personal level and therefore they have stronger relationships. It was also found that when members move from one project to the next one they already have some degree of trust on members in the team and therefore it leads to positive reinforcement of behavior during new projects. It is also interesting to note that the changing composition of team over variety of projects has been found to have both positive and negative influence on relationships. They are seen as catalysts for the mending previously existing bad relationships however also deemed a possible reason for creation of sub-groups in team.

## **6.3 Conclusions**

This study has been a learning experience and there are multiple conclusions which can be drawn from it. There were some expected results in terms of relationship development in virtual environments flourishing on the basis of trust among team members. Also results in the shape of mixed influence of temporal distance, physical distance and culture.

However unexpected results arose in the shape of new role of means of communication and influence of formalization in guiding the development of relationships among members of virtual teams.

It is evident that the importance of relationships among members of GVTs is multifold. It influences performance and efficiency of the firm. Not only that, but it also has a greater influence on the life of organization itself. Relationship development is a complex phenomenon in virtual context. It is not limited to only one level out of individual, group, organizational or external factors but is shaped by all these factors simultaneously.

This study provides a good start in term of exploring the combined influence of multiple factors on relationship development in global virtual teams. There are multiple studies focusing on the individual factors and their influence on relationship development. However, convergence of these multiple factors would lead to a better understanding of relationships among members of virtual teams. It is so because a single relation is being influenced by culture, language, distance, trust and rules and regulations. Understanding the influence of one factor is helpful starting point to know the dynamics of these relationships but in order to develop complete understanding studying these factors together would be helpful.

## **6.4 Academic Contributions**

This study reflects upon various theories about relationship development from different perspectives including trust and other characteristics of virtuality. These theories and models have been incorporated in research framework and have been tested against empirical evidence. It is due to this process, that many of the previous findings have been verified e.g. the influence of tenure of working together on relationship development; while in other instances differences have been found e.g. where people from similar cultures were entering into conflict as opposed to the previous findings that different cultural backgrounds may be the cause of greater conflicts.

This study confirms many previously conducted studies but also provides some extensions to these studies. It has been argued by Shachaf (2008, 134-138) that virtual settings bring many advantages (such as diversity & reduced project time lines) & disadvantages (friction among team members in different geographical locations, time management etc.) for the firms. This study confirms these results. However, in terms of diversity, this study provides dual results. Diversity has been seen by many members of the GVT to be beneficial but also it has been considered to be having a bad influence on relationships at times due to different attitudes e.g., towards means of communication. Following this line of thought it

is possible to conduct future research about the changing role of diversity specially when focusing at it as a process where relationships develop with the passage of time.

Butler, Zander, Mockaitis and Sutton (2012) point out conflicting attitudes toward hierarchy, direct versus indirect communication and trouble with language fluency and accents are some of the issues which global virtual teams have to deal with. This study found out similar results where it was evident that older members had some level of resistance towards the emergence of hierarchy in the team. Similarly, different media of communication were found to have a different level of influence on relationship development. In general, more synchronous the media of communication, better influence it does have on relationship development. Walther (2002) criticizes the earlier unrealistic findings which concluded interactions in GVTs are not as social as in face-to-face interactions, as they did not allow enough time to uncover such interaction and therefore it is possible to overcome the weaknesses of interpersonal relationships in the short terms and better working environment can be created. However, this study found contradicting results to Walther's study. GVT members in this study confirmed with the idea that face-to-face interactions can have a better influence on relationship development.

Mockaitis, rose and zettinig (2009, 1-6) are of the view that multicultural nature (individualistic vs collective) of GVTs is a major determinant of trust among team members in GVTs. This study confirms to these findings, however as an extension a reciprocal relationship has been found between multiculturalism and trust. Development of relationships in such teams is influenced by the initial level of trust they have towards other members and in later stages trust is influenced by different events happening in the multicultural sphere. In another study, Mockatitits, Rose and Zettinig (2012) argued that interpersonal relationships are not only dependent on the duration of the project but also the type of cultural setting to which team members belong; therefore those who were collective-oriented also have a tendency to build relationships. This study found that the duration of project does have an influence but more than that it is the assurance of continuity of working with the same organization which has a greater influence. Also it was found that members from collective cultures were able to develop relationships in a better way but on the other hand members who shared same collective culture but any of those members has been part of another culture as well, they still have conflicts.

In terms of further extensions to the existing literature, it can be argued that multiple gaps can be identified based on this study. It is proposed that studies shall be conducted in the sphere of multiculturalism specifically focusing on team members who have been part of multiple cultures termed here as members belonging to an "international culture". In doing so, it is proposed that research is conducted in order to study the influence of mem-

bers belong to international culture on relationship development among team members. Similarly, it is proposed to conduct studies related to development of trust among members of GVTs as a process based on different events and its influence on their performance. Lastly, a comparative research can be conducted in order to identify the influence on relationship development of project duration as compared to the assurance of continuity of working with the same organization outside the domain of project. These gaps have been further discussed in limitations and future research section.

## 6.5 Practical Contributions

This study provides a comprehensive view about dynamics of relationship development in virtual settings. The fact that it combines all different variables from different levels of interaction inside and around the organization provides the opportunity to have a clear picture about emergence of relationships.

Given the importance of the new working model of virtuality due to enhanced technological advancements, a new convergent perspective towards relationship development can help the organizations to plan the virtualization of projects with a better understanding of relationship dynamics and hence a better perspective towards management of these relationships. Understanding that relationships are dynamic in nature and influenced by varied level of factors, practitioners can aim take to advantage of virtual environments by better managing relationships among team members through steps such as using richer media of communication and formalization processes.

For the case company from which data was gathered for the purpose of this research, there can be multiple learning points. The applications drawn from this study can be applied both in short and long term for better development of relationships among team members. This would help the company to grow and sustain the business while having a harmonious working environment.

Working in GVTs is a novel idea which helps such small firms such as the case company to take cost advantages while operating internationally. This was one of the main the motives behind this kind of structure for case company as well. However, with the growth of business, it is important to shift the focus from cost saving and start investing in relationship development and better working conditions for team members.

It is suggested that since the firm is in early stages of growth and therefore new members are becoming part of the business. Therefore moderation of relationships through formal rules and regulations is plausible. It has been seen already happening in the case com-

pany however this phenomenon is occurring on case to case basis. It is suggested that the firm shall develop a uniform code of conduct in terms of media and frequency of communication. This code of conduct shall be applicable to all the old and new members of the firm.

In order to overcome the problem of different levels of importance attached to different media by different members, training sessions shall be conducted so as to have an equal understanding of working conditions and environment. It can be argued at this point that these communication issues are such in nature which can be avoided easily by conducting such sessions. As it was observed during the study that these small issues are becoming a basis of conflict and bad relationships among members therefore small investment shall enable to team to work in a better environment.

Another factor which emerged during the course of study is related to inclusion of new members or exclusion of old members. While it is a necessary step for the firm to do so because of the changing nature of the projects but it is also important to provide all the team members basis for an equal level of trust. In this context, it is suggested the firm shall hold meetings through video conferences before the start of new projects where not only the tasks and project at hand are discussed but also members are provided with the opportunity to discuss about themselves and their expectations from each other. These social events shall be converted to face-to-face meetings in the long run depending on the budget availability.

When firms start growing, it is evident that they have to move towards formal structures and procedures. It also implies that they shall move from generic tools of communication to more personalized tools. It is therefore suggested for the case company that in order to have a proper track of the events it shall start planning for investment in central communication systems through which every team member would have access to the previous communications. It would make it easier to resolve task conflicts and therefore help them to move towards prosperous relationship development.

## **6.6 Limitations and Future Research**

Purpose of this study was to explore the development of relationships in virtual environment context. In this regard case study method was followed to explore the phenomena based on different events happening through the life of different projects. Apart from generic nature of issues related to case study methodology in terms of generalizability, it is important to note that this study is even more specific in nature due to the fact that results are

driven from different events. These events cannot be considered uniform across industry. Therefore, further studies are needed in multiple organizations in similar context of virtuality where same teams are studied under varied projects in order to generalize the findings of this study.

As described in the analysis of Theme 3 and conclusion sections, that varied results were found related to the influence of cultural factors on development of relationships among members of GVT. It was outside the boundary of this research to conduct only a study about these influences. Also these influences emerged as a result of this study therefore, in order to have a better understanding of this issue further investigation is needed as to study if there is different level of influence on development of relationships when members are from different or similar cultural settings. Also, it is in this context, that further research is needed to study the influence of culture in instances when some of the members have dual culture and others belong to one of the culture represented by that duality.

Due to the scope of this study, it was not possible to have a deeper investigation into the role of changing composition on team over different projects. It was found and verified through existing theory that this phenomenon may lead to formation of sub-groups, however, the emergent result where new members are considered to have a positive role in mending previously sour relationships needs further investigation. This investigation can be made across different cases so as to establish if such a phenomenon exists and if so, then how it operates.

It was found during the research process that development of relationship is influenced by Trust and rest of the characteristics of virtuality. It was also found that trust one such factor which is also either influencing or being influenced by the rest of the characteristics of virtuality. It provides a further opportunity for future research. It would be interesting to look at how level of trust fluctuates based on different events. By conducting this kind of process study between trust and relationship development, there is a possibility to formulate different measures for the purpose of maintaining a plausible level of trust in team by managers. This can lead to performance enhancement for the GVTs.

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## **APPENDIX 1                      INTERVIEW GUIDELINE**

1. Can you introduce yourself and your role in the organization
2. Why do you consider the virtual team to have been successful/challenging?
3. Please describe the successful/challenging virtual project and team. What was the nature of the project (duration, purpose, scope, size, geographical spread, etc.)  
Please describe the key people involved in terms of their roles and responsibilities.  
Please describe your role in the virtual project team.
4. What affect, if any, did your relationship with the other Team Members have on the functioning of the virtual team?
5. What impact, if any, did your relationship with the other Team Members have on other members of the virtual team?
6. Do you think that your relationships have been affected by coordination problems due to virtuality?
7. Can you describe any event where miscommunication or cultural difference with other members could have affected the relationships?
8. Did your relationship with other Team Member(s) change over the course of time? In what way? Why? Did this help or hinder the virtual tasks?
9. Do you think that this rotation of the members have any effect on you relationships with other members
10. What effect on your task related relationship, if any, does it have when some members of the team leave or new members join?
11. What effect on your social relationship, if any, does it have when some members of the team leave or new members join?
12. Do you think that the duration of project has any effect on your relationships with other team members? If yes, how does it affect you personally?

Additional probing questions will be asked if leads are suggested through the responses of the participants.



**APPENDIX III    MINUTES OF MEETING**

***WORDPRESS PROJECT***

**MEETING MINUTES**

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Meeting Date: 25/09/2014

Meeting Location: Virtual

Approval: DRAFT

Recorded By: Mangesh



## 1. Attendance

Name	Title	Organization	Present
Javeria	Content Writer	E.E	Skype
Kiran	Marketing Coordinator/Editor	E.E	Skype
Asim	BITM	E.E	Skype

## 2. Meeting Location

Virtual

## 3. Meeting Start

Meeting Schedule Start: <15:00 Hrs Finnish Time>

Meeting Actual Start: <15:15 Hrs>

## 4. Agenda

- **<Problems with meeting deadlines for content writing**
  - Difficulty in meeting deadlines due to odd timings of work
  - Due to the nature of work and different time zones it is taking time to adjust to new working hours. It is important to let the task known at least one day before preferably two days.
- **Communication with and Supervision of Content writer with Editor**
  - Difficulty in terms of meeting quality of content as per editor's requirement. Initial supervision was with BITM which provided more flexibility in terms of deadlines however, editor seems strict to the content writer in terms of dead lines and also the quality of work. BITM always had backup due to the knowledge of the industry but not the case with editor.
  - Agreed upon to contact with editor twice in a week at specific time through skype instead of emails in order to remove communication barriers
  - Editor agreed to provide supervision in terms of improving the quality of work

## 5. Meeting End

Meeting Schedule End: <16:00>

Meeting Actual End: <16:00>

## 6. Post Meeting Action Items

Action	Assigned To	Deadline
Regular Skype meeting	Kiran, javeria	-
Creation of template for content	Kiran	27-09-2014